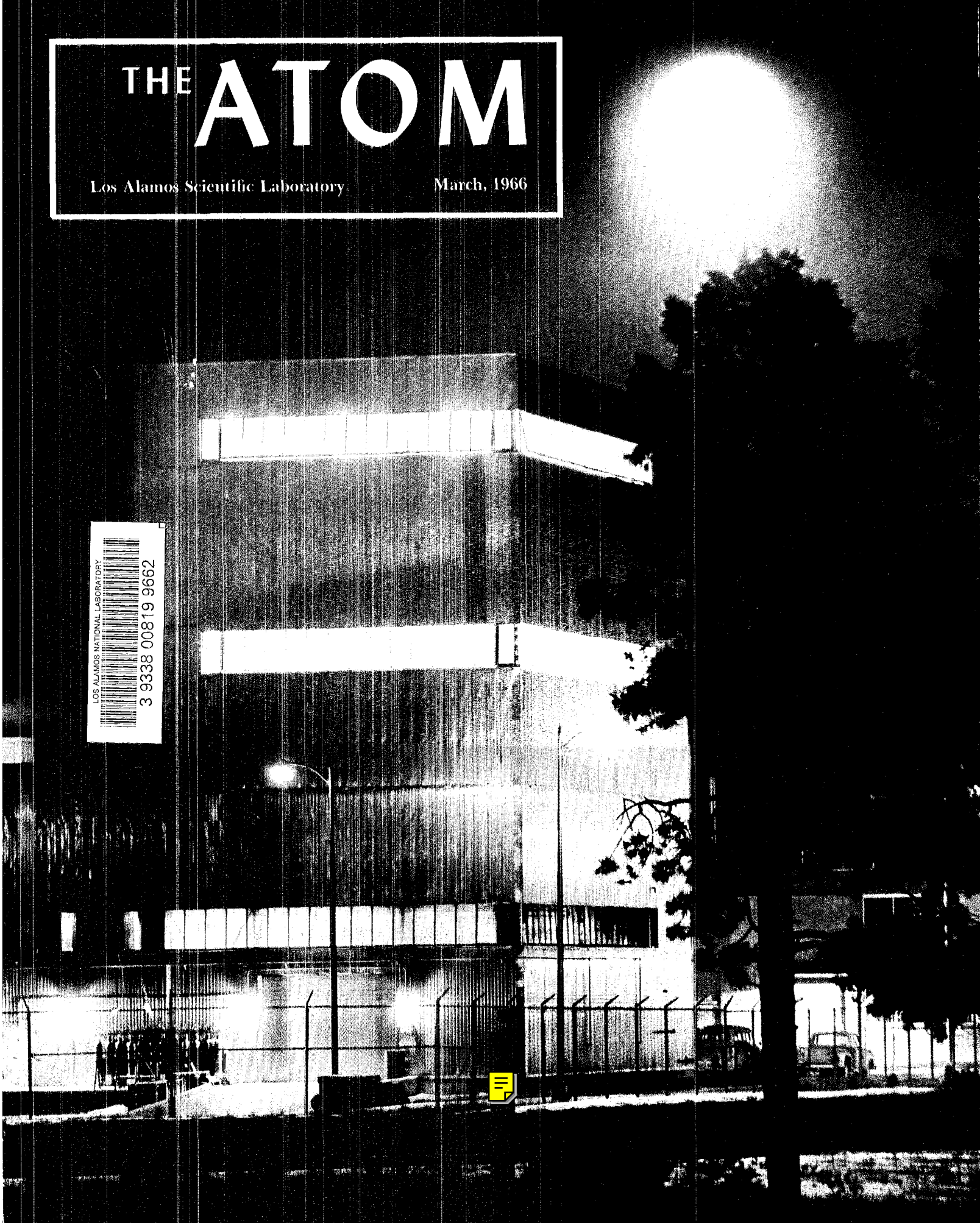
THE ATOM

Los Alamos Scientific Laboratory

March, 1966



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Volume 3 Number 3

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ON THE COVER: A full moon is always spectacular, especially on a crisp and clear winter's night. Bill Regan made the photo in January, moments after the moon climbed above the Press Building.

Short Subjects

Dr. Dana P. Mitchell, 67, the "supply sergeant" for the wartime atomic bomb project at Los Alamos, and his wife, Marjorie, 62, were found dead in their Yonkers, N.Y., apartment February 7. Authorities at Yonkers said the Mitchells, who had been seriously injured in an auto accident last August, apparently died as a result of murder-suicide by gunshot. A Columbia University staff member since 1921, Mitchell was at Los Alamos from 1943 to 1945, serving as assistant to Director J. Robert Oppenheimer, in charge of scientific procurement. Mitchell was an associate professor of physics at Columbia. In recent years he devoted most of his time to classified research for the Navy at Columbia's Marine Laboratory at Dobbs Ferry, N.Y.

Fred L. Ribe, P-15 Group Leader, was a visiting lecturer at Adams State College on February 20. Ribe's visit, which also included informal meetings with students and conferences with faculty members regarding curriculum and research problems, was sponsored by the American Association of Physics Teachers and the American Institute of Physics as part of a national program to stimulate interest in physics.

Allen G. Blair, staff member in P-12, the Laboratory's cyclotron group, is one of 66 winners of North Atlantic Treaty Organization postdoctoral fellowships in science. He and his family will leave in August for Saclay, the French Atomic Energy Commission laboratory near Paris. The fellowship is for one year, and Blair will be working on polarized proton beam experiments with the Saclay cyclotron group. Blair joined LASL in December of 1960 and was awarded his Ph.D. degree in physics in January of 1961 from the University of Pittsburgh.

An "advisory board" to consider appeals relating to priorities on the purchase of Government-owned property at Los Alamos has been named by AEC Area Manager Charles C. Campbell. The board will conduct hearings, make specific findings of facts and conclusions and make recommendations regarding disposition of appeals to the Area Manager. Members of the board, all members of the Area Office staff, are **John A. LaMonica, Arnold Tepper** and **Edwin E. Wingfield.** LaMonica will serve as chairman.

Karl Johnson of CMB-11 and **Claude R. Winkelman** of K-1 have been elected co-chairmen of the new Los Alamos Technical Group of the New Mexico Section of the American Vacuum Society. **H. G. Worstell** of MP-3 and **Walton Ellis** of CMB-8 will represent the new group on the Executive Committee of the New Mexico Section, according to **Norman G. Wilson** of K-1, who is vice-chairman of the Section.

An index for 1965 issues of The Atom has been prepared and is available through request to PUB. The index is an alphabetical listing of subjects and people featured in the magazine, with month and page references.

Hugh Paxton, N-2 Group Leader, has been named by the Atomic Energy Commission to be a member of the Atomic Safety and Licensing Board in the matter of the application of Rochester Gas and Electric Company for a construction permit.

continued on next page

Shorts . . .

continued from preceding page

Formal application for designation of Los Alamos Scientific Laboratory as a Registered National Historic Landmark has been made to the Department of the Interior by Atomic Energy Commission Chairman Glenn T. Seaborg. A certificate and bronze plaque are being prepared for presentation at Los Alamos within the next few months, according to Robert M. Utley of the National Park Service's Division of History Studies. Seaborg has also applied for Landmark status for Experimental Breeder Reactor No. 1 at the National Reactor Testing Station in Idaho, and the X-10 Reactor at Oak Ridge National Laboratory, Tennessee.

A certificate of appreciation for LASL's contributions to the work of the Air Force Weapons Laboratory has been sent to LASL Director Norris E. Bradbury. Col. Raymond A. Gilbert, AFWL Director, noting his organization had received the Air Force Outstanding Unit Award, told Dr. Bradbury "the accomplishments upon which this award was based would not have been possible without the outstanding cooperation and support of you and your staff."

Patrick G. Smith has joined the staff of the LASL Community Relations Office as a public relations specialist. Smith, 32, transferred to the Hill January 31 from Nevada, where he had worked for J Division for the past four years. He replaces Dimas Chavez, who left recently to take a Government position in Austin, Texas. Smith has a B.A. in fine arts from St. Louis University. He served with the Army procurement forces in Korea and spent three years in private business before joining LASL in 1961.

Robert F. Warner, Alternate Group Leader in K-4, has been named manager of Civil Defense Shelter EA-175 at 1175 Iris Street, it was announced by Wright Langham, head of the Los Alamos Civil Defense Shelter Managers' Organization.

New Administrative Posts For Woodward, Rodgers

William C. Rodgers has been named LASL Wage and Salary Administrator, succeeding John A. Woodward who has been transferred to the office of the Assistant Director for Administration to assist on special projects.

WOODWARD

RODGERS

Rodgers, who was Alternate W&S Department Leader, has been with LASL since February, 1961. A veteran of the U.S. Army, he received his BA degree in business administration from the University of New Mexico.

Woodward, an alumnus of Harvard, has been with the Laboratory since September, 1952. Before joining the LASL staff, he did wage work, industrial relations, contract negotiations, and arbitration for private industry, labor, and the government.

Brazier Heads ENG-1

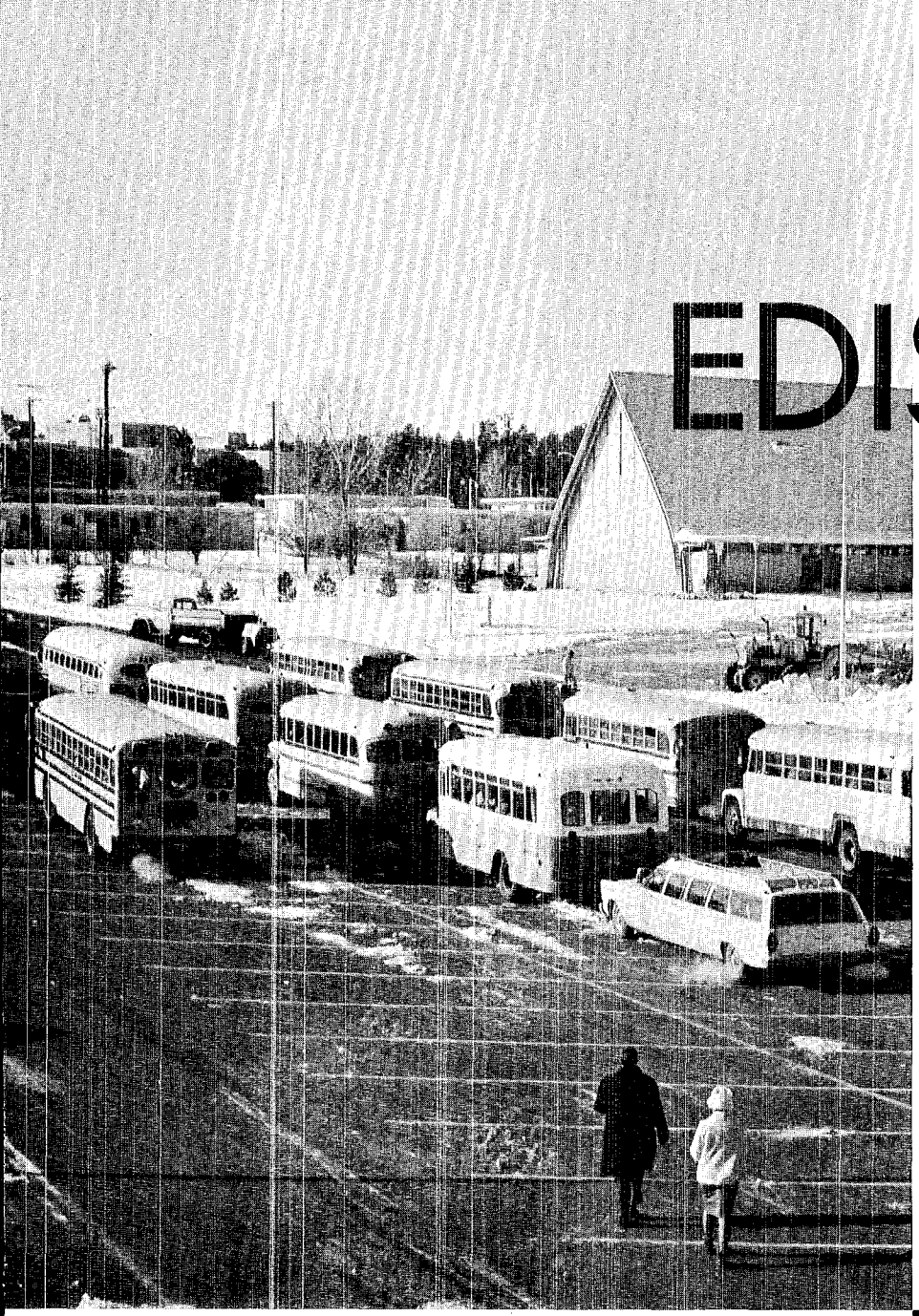
Emmett L. Brazier, Jr. has been named ENG-1 Group Leader (project engineering). He received his BS degree in mechanical engineering from the University of Texas, Austin, and joined the LASL staff October 22, 1954.

Miss Beulah Rapier, a senior data analyst with GMX-8, retired February 15. She was employed by LASL on December 1, 1958, coming here from Chicago.

'students, science, teamwork' is formula for . . .

EDISON DAY

Photographed by
BILL JACK RODGERS,
BILL REGAN, ROY STONE
and MITZI ULIBARRI



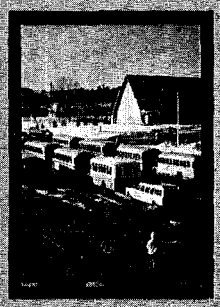
Rendezvous point for buses converging on Los Alamos.

Knowing of his pervasive interest in the challenging and the incipient, one could almost be certain of Thomas Alva Edison's approval. And the occasion was in his honor.

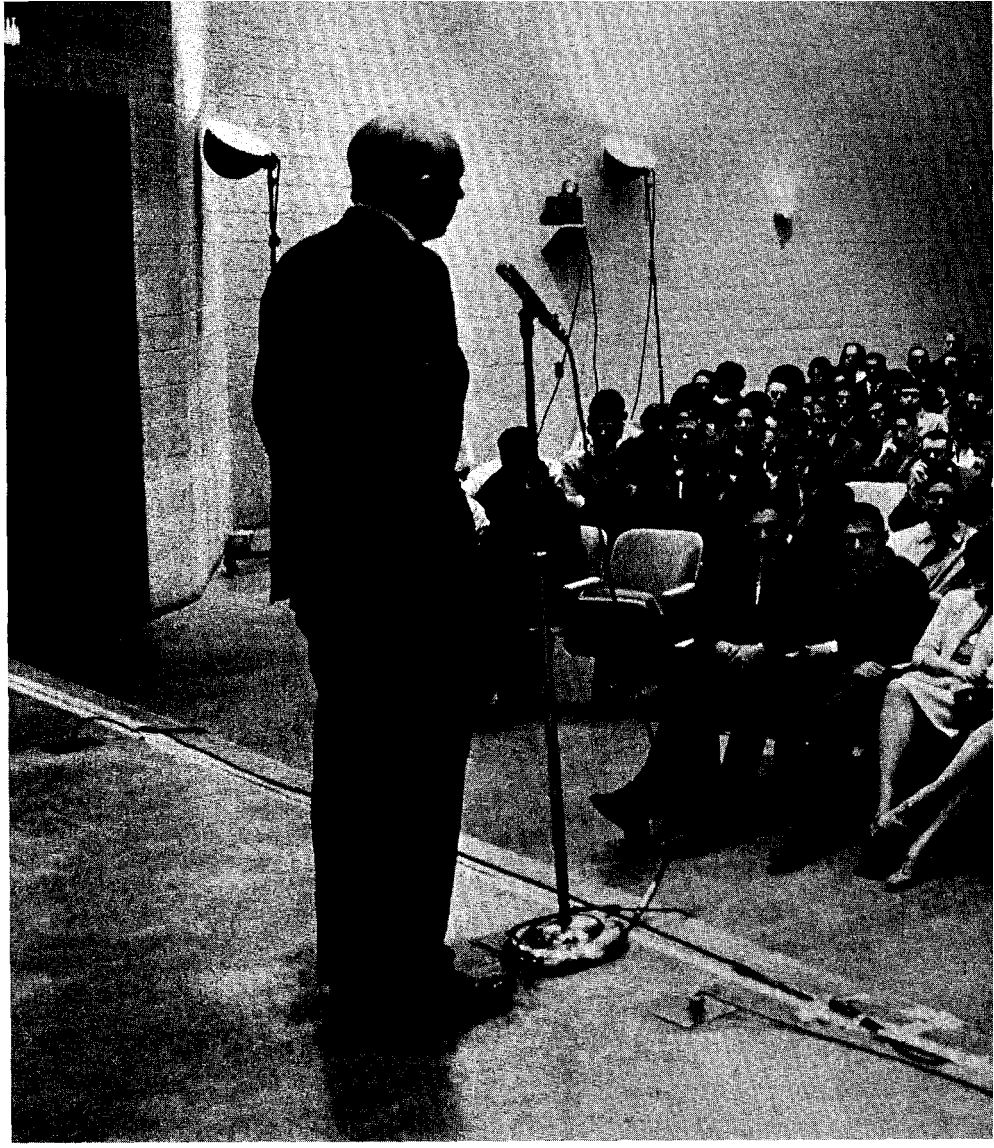
But, understandably, the nearly 800 high school students, from 35 schools in five states, who attended one of LASL's two back-to-back 10th annual Science Youth Days last month were more concerned with nuclear age research than with the invention of the incandescent lamp.

Again this year, on February 10th and 11th and in honor of Inventor Edison's birthday, LASL joined numerous other U.S. scientific installations in hosting top students.

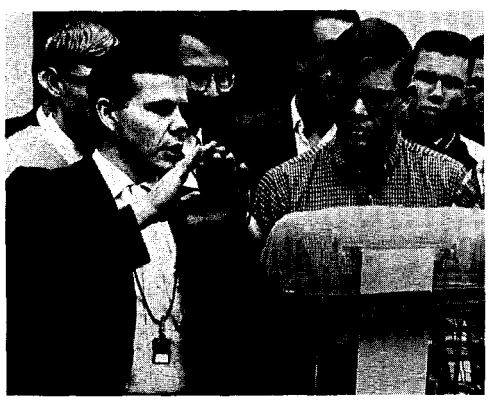
The key word was "kinetic"—visitors stayed on the move, as are these guided by Marty Holland (left) and Darell Bevis of H Division.



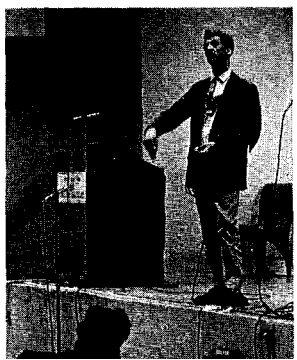
Why research? That question was answered first the mornings of the 10th and 11th by LASL Director Norris Bradbury in an informative backgrounder. The young visitors were then taken, in three groups, on tours of the Sherwood Project, Physics Building and Health Research Laboratory. Here, the questioning began in earnest.



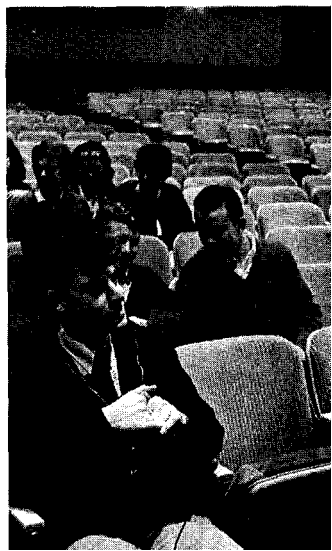
LASL Director Norris E. Bradbury sketches development of



Man behind the hands is Joe Hafele of P-9.

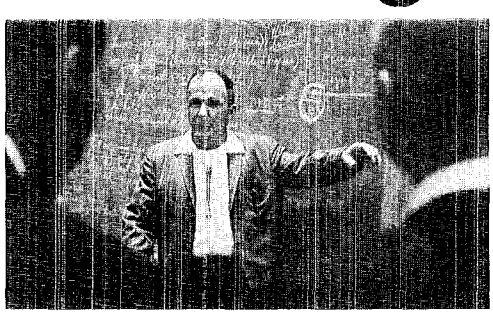


Left: Sherwood, explains James Tuck, Associate P Division Leader, seeks control of thermonuclear energy.



atomic energy.

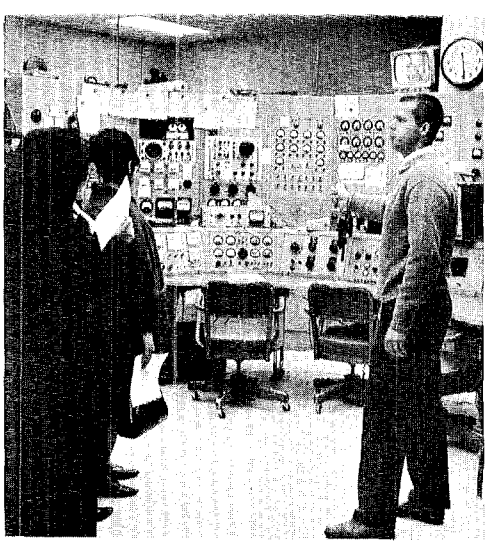
A Meeting of Minds...

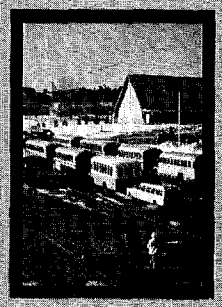


Sherwood's Hugh Karr discusses fantastic temperatures.

Right: Nerve center of Van de Graaff is Peter Fessenden's bailiwick.

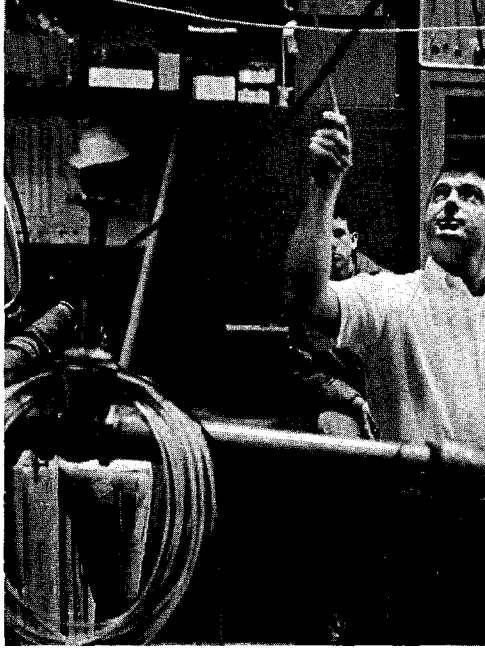
Left: James A. Phillips chats with guest before Sherwood lecture.





They came from as far west as Los Angeles, as far from the opposite direction as Snyder, Texas. Some Colorado buses left as early as 2:50 a.m., and drove much of the night in below-freezing weather. Despite the long rigors of travel for many, the students were complimented nearly without exception for their behavior, alertness and interest.

P-14's Harry Dreicer delivers spiel.



Richard Morse of P-18 isolates

Right: John Furchner of H-4 excites fluid with radiations in HRL demonstration.

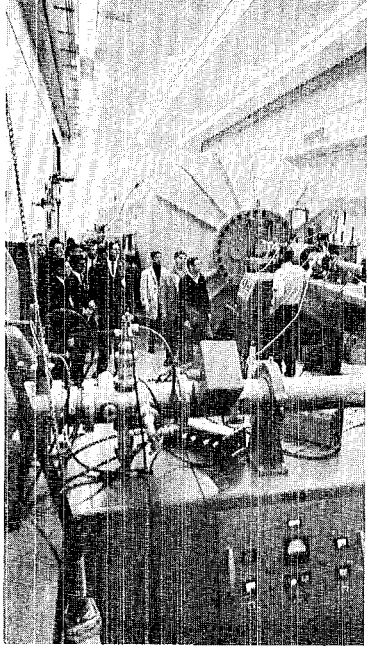
Left: John R. Asbridge of P-4 dwells on Vela Satellite program.

A question from floor during P Division orientation.

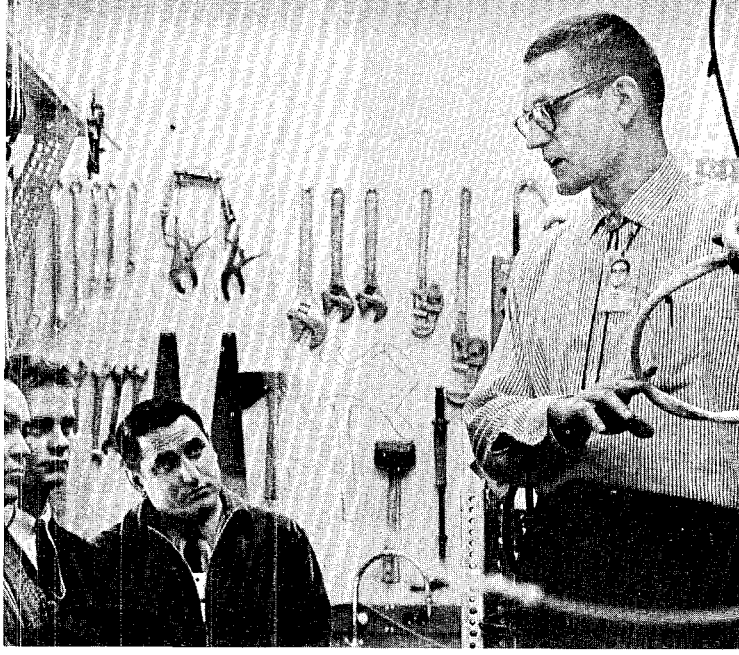
Right: Eugene Bernstein of P-12 makes a point.

Left: Van de Graaff computer amuses students with John Palms of P-DO.

interesting Sherwood item.



A look at Van de Graaff.

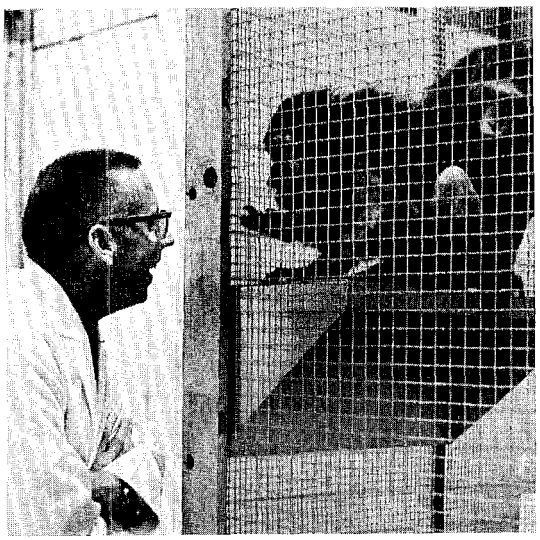


Sherwood guide is Ivars Henin of P-17.

A Torrent of Tours . . .

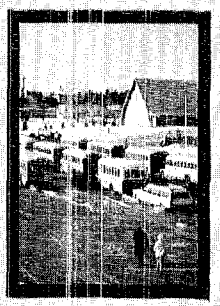
Jerry Ohlsen of P-12 gives explanation of LASL's variable energy cyclotron.

Francis K. Tallmadge, who organized P Division's tours, enjoys moment of quietude.

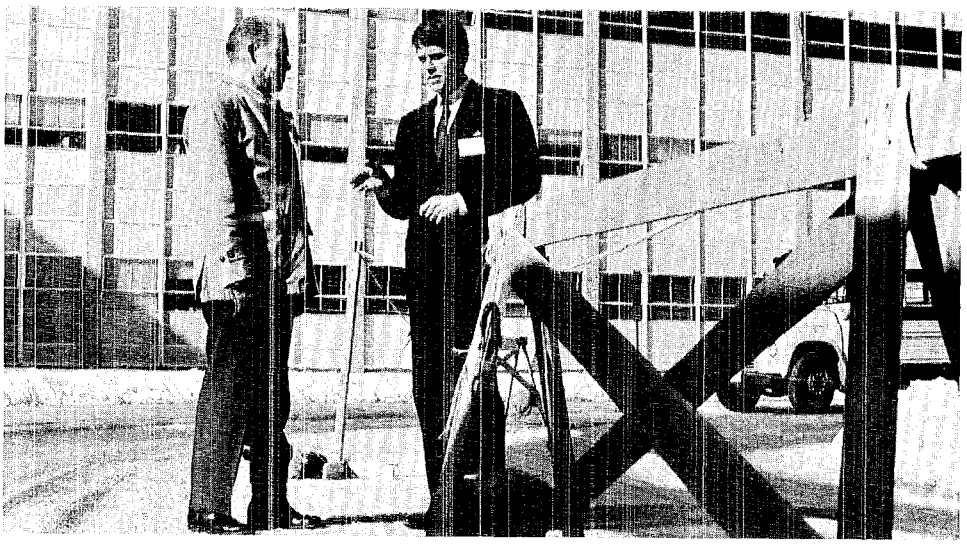


A lively discussion seems to be in progress between Jake Spalding of H-4 and occupant of HRL monkey quarters.

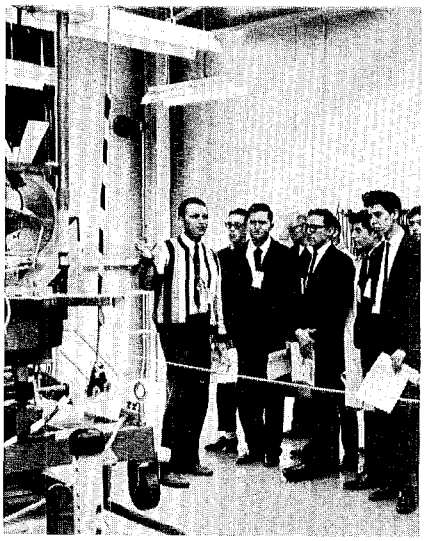
Donald Petersen of H-4 runs through demonstration in HRL tour.



Research was temporarily shelved at several Youth Day stops, and for good reason. All hands were involved with the visitors, as tour guides, lecturers, sound men, projector operators, "troubleshooters." More than one staff member, unable to use complicated formulas and technical dialogue, found the attempt to give simple explanations to complex matters a worthwhile intramural exercise. Said one weary young Ph.D., "You know, perhaps we should try this more often."



Jesse T. Rose of AEC's Municipal Section (left) and Pat Smith of PUB check signals.

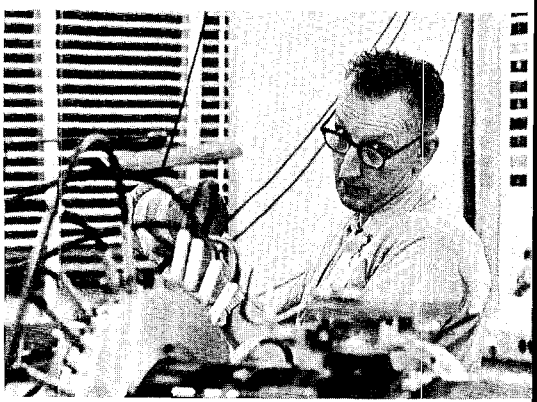


Maze of Van de Graaff equipment is made meaningful by Jerry Beery of P-10.

All One-Way Corrigans, thanks to Louis Cutler of P-DO (left) and Boyd Sherwood of P-12.

Jack Futsler of H-5, at left, takes a break. At right, Bob Porton, Community Relations Director, keeps tab on his buses.

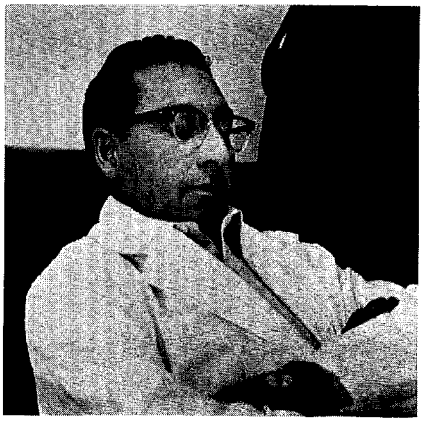
Now there, contends Art Williams of P-14, is a dilemma-and-a-half.



A Spate of Details . . .

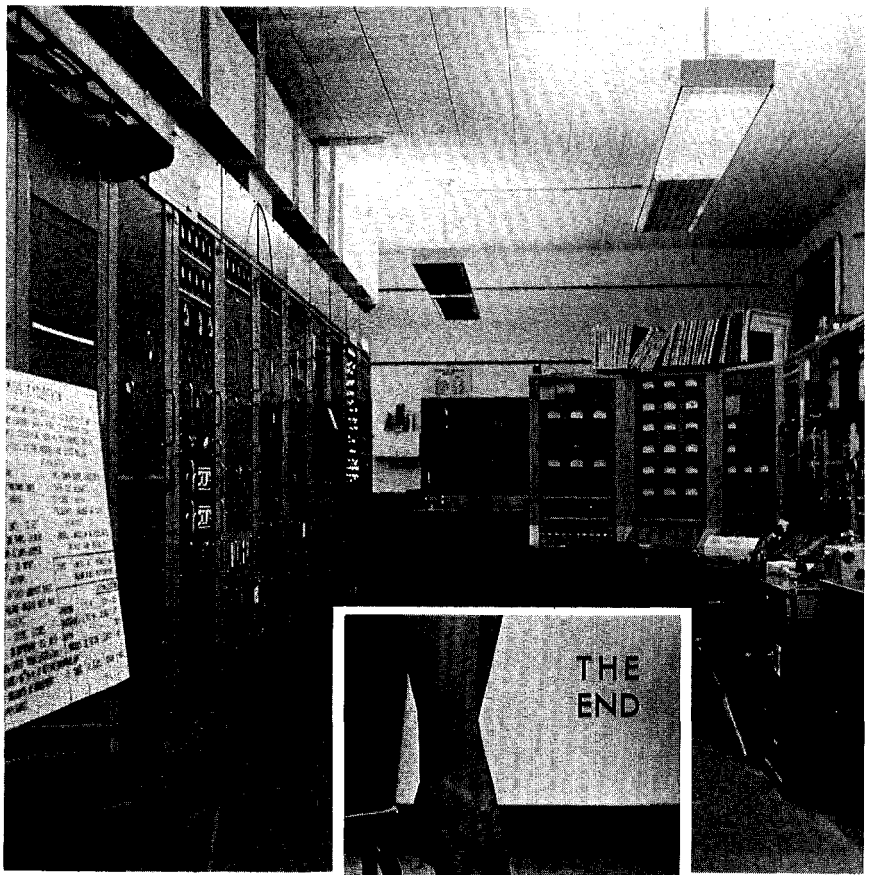
Except for brief snow flurries Thursday afternoon, weather cooperated nicely, as these nearly clear skies over departing Van de Graaff visitors indicate.

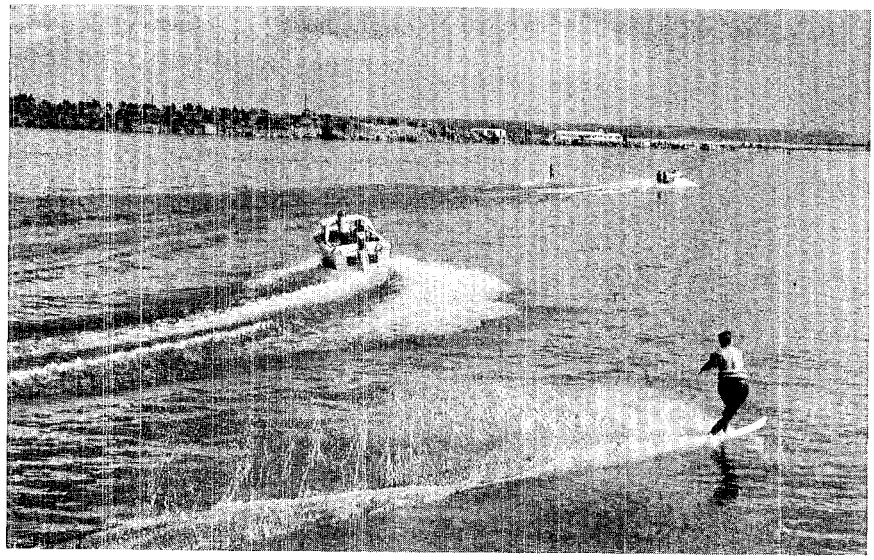
PUB's Peter Mygatt talks with HRL receptionist Jeanette Gardell while another PUB staffer, Ed Walterscheid, calls ahead.



Ted Trujillo . . . Ted? . . . TED? Ted was an HRL guide.

After the hordes that had passed through earlier, the control room of LASL's cyclotron looks a trifle deserted in this late afternoon photograph.



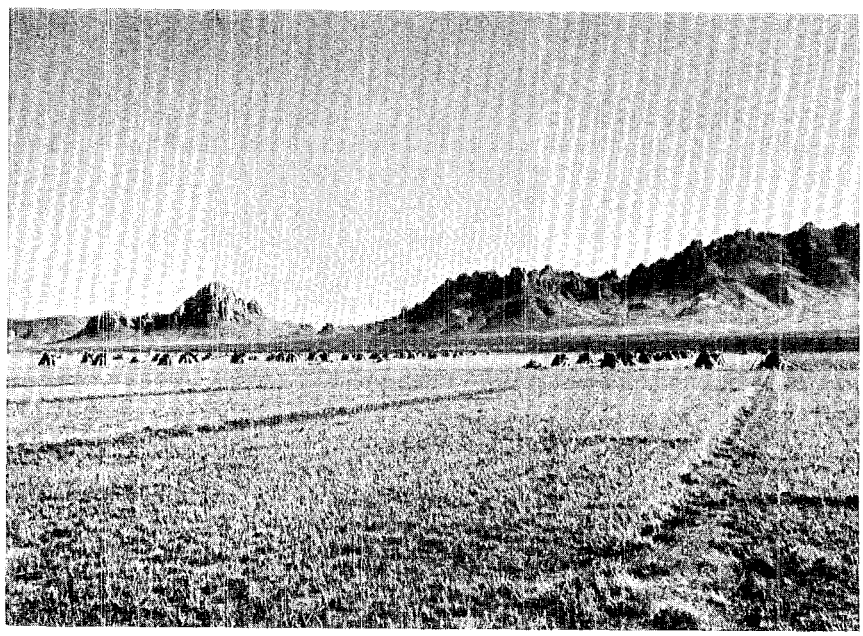


Conchas Lake near Tucumcari offers picnic and camping areas, and water sports, trailer sites, cabins and lodge, cafes and stores, swimming, boating, and water skiing. The lake is 25 miles long and contains 200,000 acre feet of water.

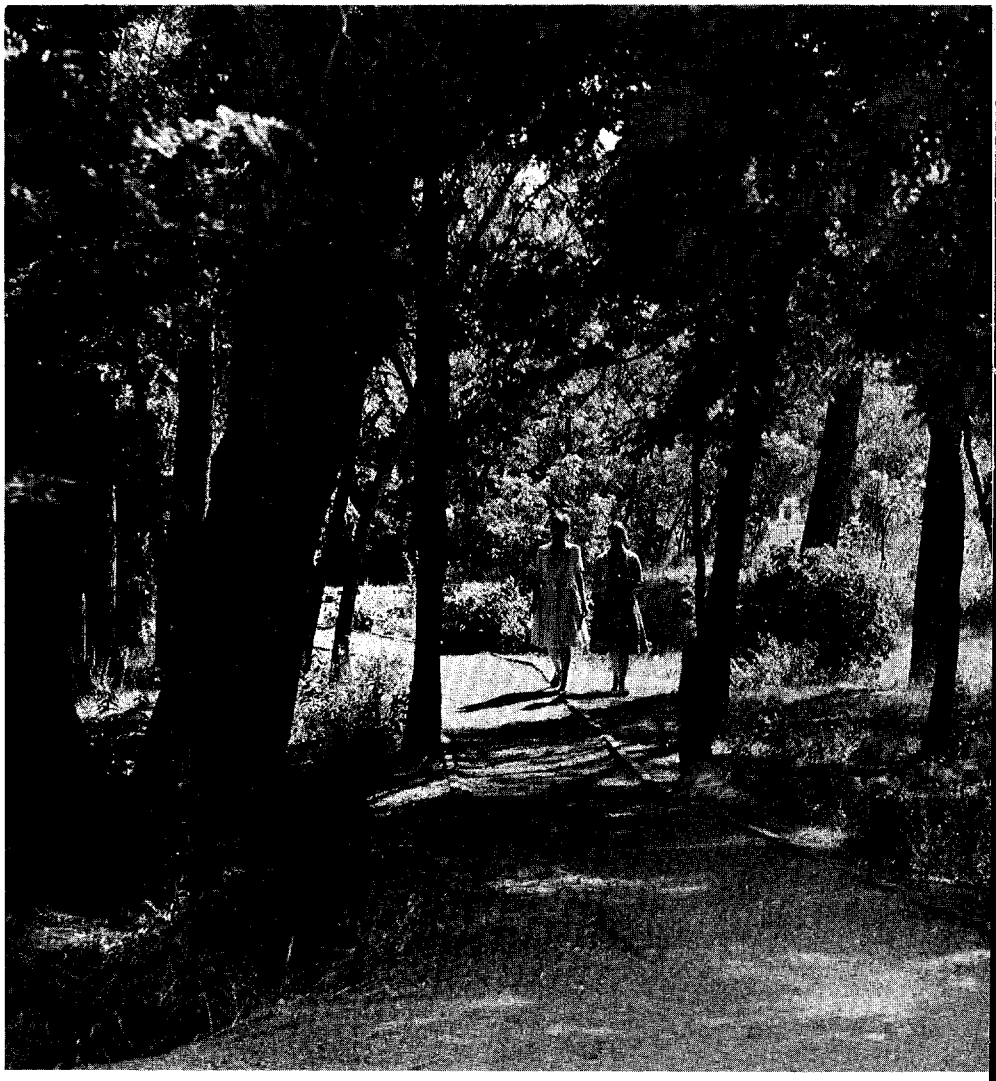
The State Parks

New and Expanded Facilities Are Coming But 1965 Attendance Topped 1970 Estimate

The new Rock Hound State Park is located in the Little Florida Mountains.



By PETER MYGATT



Although two new parks and expansion of existing facilities are being added to New Mexico's ever-growing park and recreation areas, the growth of the state parks program is not keeping pace with the increasing public usage.

John A. Elliott, director of the New Mexico State Park and Recreation Commission, said a professional planning firm has calculated that New Mexico's state parks would have a total attendance of 2,098,000 by 1970. Attendance in 1965 was 2,362,349, Elliott said.

The two newest state parks are Rockhound and Valley of Fire.

Construction at Rockhound State Park, located about 11 miles southeast of Deming, begins in March. The Park Commission plans to construct 25 picnic and camp sites, including a water well, shelters, sanitary facilities, and landscaping.

Rockhound Park is located in a shallow rincon in the Little Florida Mountains and takes in 249.5 acres of mountainous type terrain. Vistas give a panoramic view of the Big Florida Mountains and of the basin in which Deming lies.

The land was donated to the State by the Triple S Land Corporation, working with the Deming Chamber of Commerce, in 1964.

The Park Commission plans to scarify some of the area, making minerals and semi-precious gem stones more readily available to rockhounds. Minerals and stones occurring within the park include: black sagenite agate, fortification agate, tippage agate nodules, perlite, kaolin, psilamelaine, blue opal, pink opal, amethyst, geodes, and brecciated jasper.

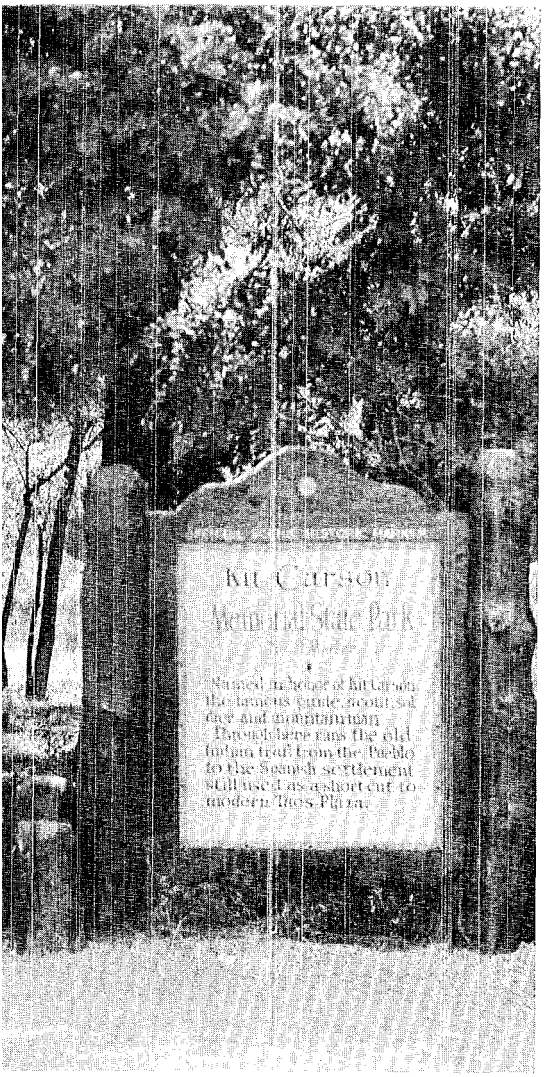
The park is probably the only facility of its kind anywhere where the public is encouraged to take souvenirs.

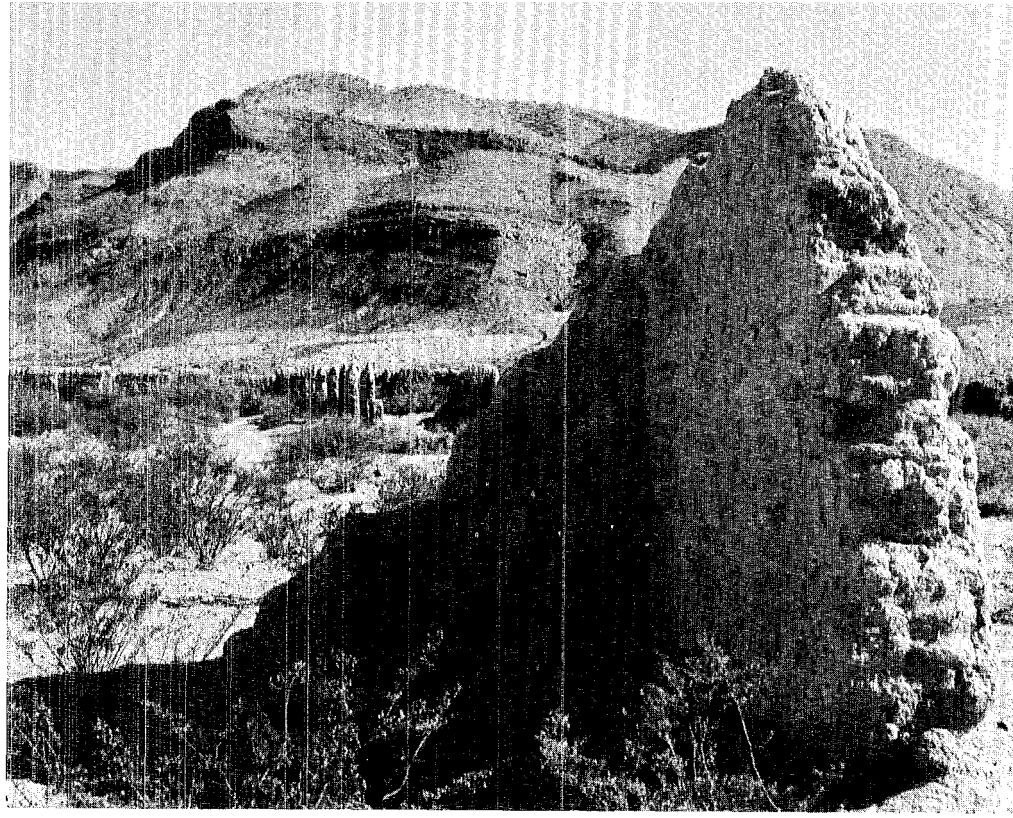
Valley of Fire State Park is located 3½ miles west of Carrizozo in the *malpais* (bad lands) lava flow. The park, encompassing about a section of land, is being developed within the black lava flow and will include about 20 picnic and camping units.

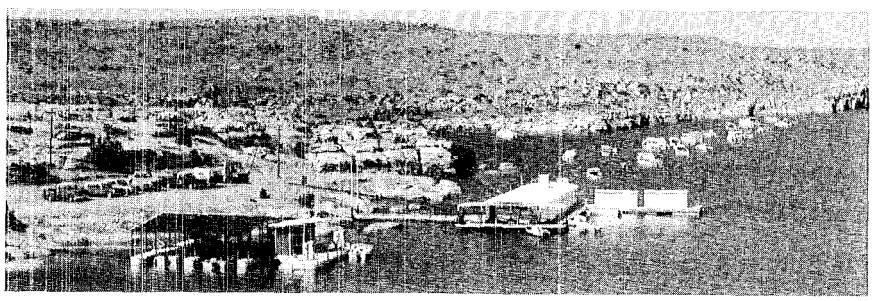
Already budgeted for development by the State Park and Recreation Commission and considered by this session of the Legislature are: Clayton Lake State Park; Alamogordo Lake State Park, near Ft. Sumner; 40-acre Morphy Lake State Park in Mora County. Extensive additional developments within the existing state parks is also proposed. Elliott hopes these budgeted projects can be commenced after July, 1966.

Fort Seldon, 14 miles north of Las Cruces, has also been designated as a State Park. Under study or agreed upon for future development are Heron Dam State Park in Rio Arriba County, which will be a part of the San Juan-Chama Diversion project; and a park on the Bernalillo-Sandoval County line just south of State Road 44 and bordering the Rio Grande.

The State Park Commission will use bond revenues to expand the Conchas Dam recreation area. Included in these funds are $503,000 in construction funds for remodeling the existing lodge with the addition of a swimming pool and 12 more rooms, building a nine-hole golf course, construction of a 5,000-foot landing strip capable of handling twin-engine aircraft, and doubling the marina size from 30 to 60 boat slips. Elliott points out this is the Park Commission's most extensive venture into the recreation business.







Above left: Kit Carson Memorial State Park, a 19-acre site at the north edge of Taos, contains grave of the famous frontier scout and soldier Kit Carson.

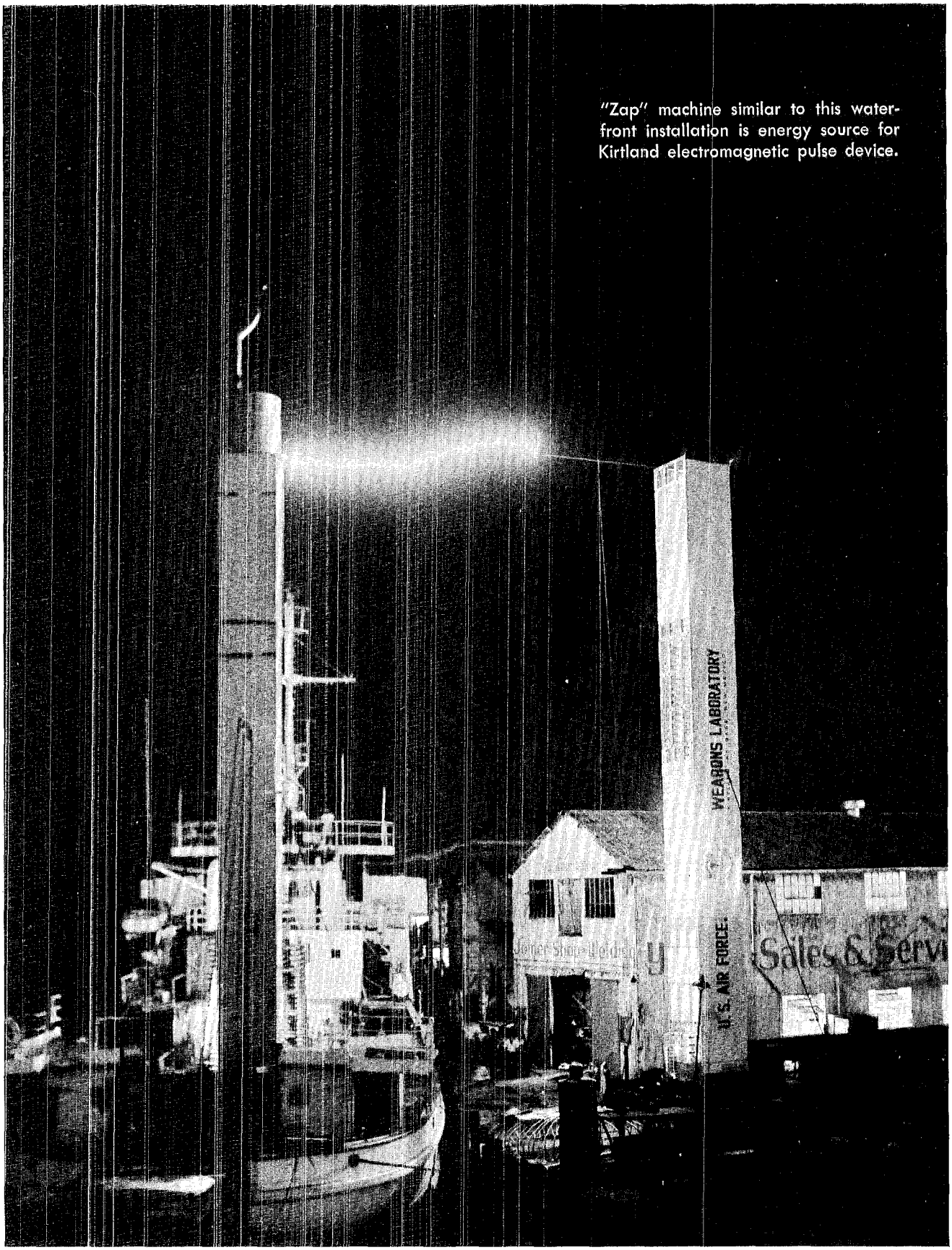
Top of page: Fort Seldon, whose ruins stand bleakly in the Rio Grande valley north of Las Cruces, has been given state park status. Fort Seldon was established in 1865 to protect travelers against raids by marauding Apaches.

Above: Marina at Ute Lake State Park, on the Canadian River near Logan. Many claim that some of the best 1966 fishing in the state will be in this lake near the Texas-New Mexico border.

Elliott said a private contractor will build a 40-room lodge with service facilities for a projected 200 rooms at Navajo Dam State Park at the Pine River site. Two per cent of the gross from the lodge will go to the state and at the end of 30 years title to the lodge reverts to the state. The Park Commission is doubling the camping facilities at Navajo from 70 to 140 units, and doubling the marina capacity to a total of 80 slips. Elliott noted that the National Park Service has let a contract for development of the Sims Mesa Site at Navajo Dam, which ultimately will be administered by the State Park Commission.

The other major expansion now programmed is at the Santa Fe Ski Basin in Hyde Park—40 additional picnic and campsites.

The total number of visitors per park during 1965 includes: Blue Water State Park near Grants, 127,142; City of Rocks State Park near Silver City, 43,368; Conchas Dam near Tucumcari, 233,969; El Vado near Tierra Amarilla, 22,588; Elephant Butte near Truth or Consequences, 632,707; Caballo near T or C, 248,177; Hyde Park near Santa Fe, 126,932; Navajo Dam near Aztec, 161,343; Oasis near Portales, 71,424; Pancho Villa at Columbus, 61,021; Storrie near Las Vegas, 141,634; Bottomless Lakes near Roswell, 156,043; Ute Lake near Logan, 194,470; Kit Carson at Taos, 120,245; and Rio Grande near Taos, 121,286.



"Zap" machine similar to this waterfront installation is energy source for Kirtland electromagnetic pulse device.

EMP from ALECS

By DUDLEY LYNCH

The big tests are yet to come, but they too will consume only an instant. In those fractions of a second, a sharp, resounding sound—like the crack of Bunyonesque bullwhip—will bound from a corner of Albuquerque's Kirtland Air Force Base as punctuation to a jagged burst of electricity. The miniature lightning bolt, meanwhile, will have disappeared into a blocklong system of slanting power poles and fan-like layers of wire. The result: A surge of electromagnetic energy from a large nuclear explosion will have been simulated.

When analyzed, data from the experiments will add to the nation's knowledge of the effects of nuclear detonations on missile guidance controls, computer circuitry, weapons firing mechanisms, communications and power transmission systems—in short, delicate electrical and electronic components of most any description. For all such systems are susceptible, in varying degrees, to the gigantic electrical eruption that is produced by a nuclear blast. The phenomenon, an enormous high voltage burst in the radiofrequency range, is called an electromagnetic pulse.

The Kirtland facility, first fired last summer and now undergoing modifications, is capable of repeated production of electromagnetic pulses (EMP) of different wavelengths and energy levels. Envisioned and designed by two Los Alamos Scientific Laboratory staff members, the complex was built at a cost of $200,000 by the Air Force Weapons Laboratory. It is called ALECS—*A*ir Force Weapons Laboratory and *L*ASL *E*lectromagnetic Pulse *C*alibration and *S*imulation facility.

More than 375 feet long, three

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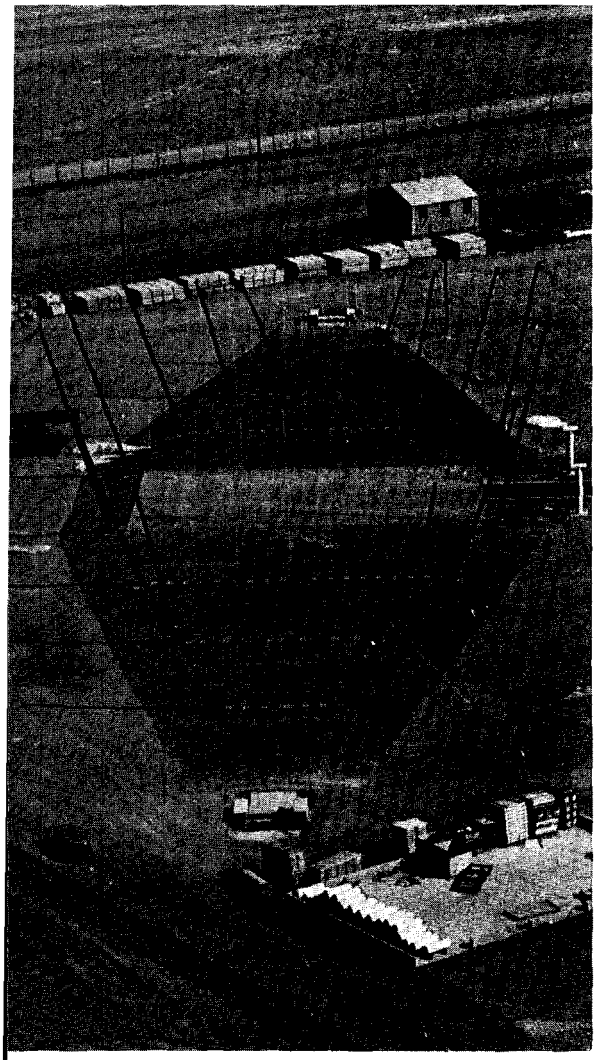
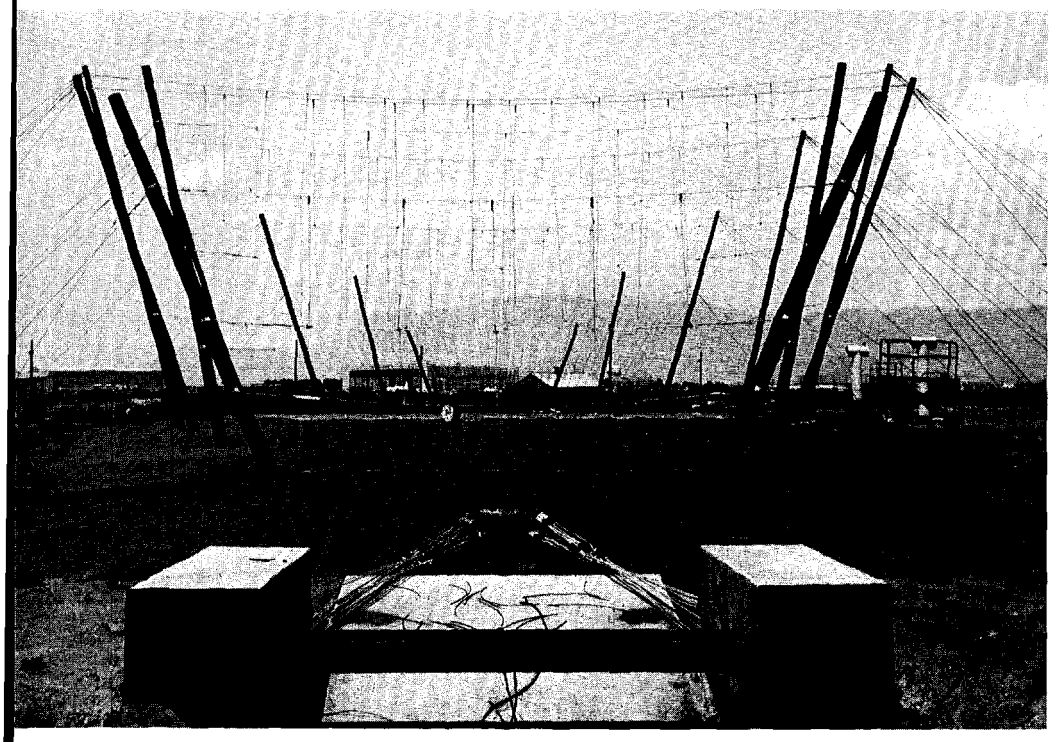


Aerial view of Kirtland radiation simulator indicates its huge size. Facility is located near main east-west runway.

Copper-coated wires fan out in three layers to form expanded "coaxial cable." Test objects are placed in center of "nest" where they are subjected to bursts of electromagnetic energy.



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stories tall at its highest points and formed by 12 miles of wire, the outdoor laboratory looks at a glance like a training school for apprentice linemen. Its designer, Ralph E. Partridge of LASL's J (Test) Division, says ALECS is the most versatile EMP simulator ever constructed. It affords a combination of more precise electronic measurements, larger electrical fields, a greater working volume and a broader frequency range than any other EMP facility.

Pulses fired through the facility so far have reached 280,000 volts, and the simulator as it is now being rigged, says Partridge, should provide pulses to 500,000 volts, and escalation to 10 million volts is possible. The modifications now being made are expected to provide the way to extremely precise measurements, such as those needed to calibrate electromagnetic sensors. These "super-antennae" note the presence of EM waves and convert the pulses to more conventional electrical signals.

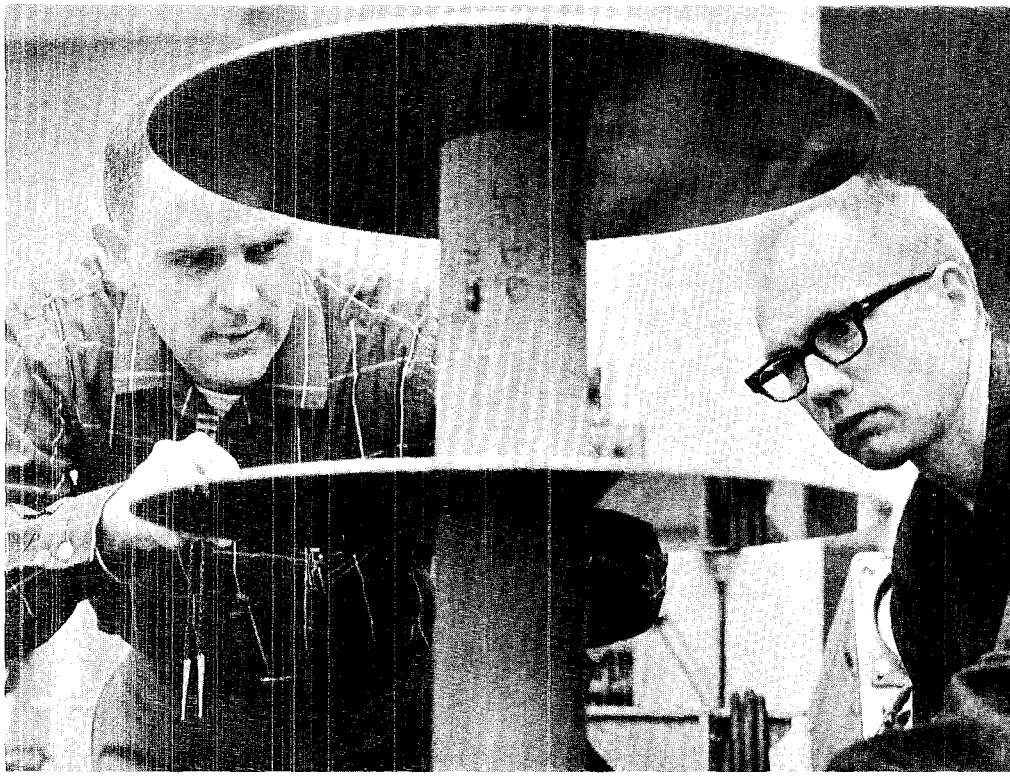
Credit for the theoretical conception of ALECS, which took a year to construct, is given to Los Alamos physicist John S. Malik, also of J Division. Both Malik and Partridge are members of a group of LASL and other scientific personnel named in 1961 to probe the EMP phenomenon. Last October, Malik received the Air Force Systems Command Award for Outstanding Achievement for his work in this area.

The EMP or "radioflash" of a nuclear detonation is thought to result from the collision of gamma rays, which leave an exploding weapon with high energies, with electrons in the atoms and molecules of the surrounding air. In transferring most of their energy to the electrons, the gamma rays initiate a vast burst or pulse of electromagnetic energy. The EMP bounds through the atmosphere, holding consequences for electronics equipment not unlike those sustained by a radio struck by lightning. The

pulse lasts only for a few thousandths of a second, but the energy burst is known to melt wires, burn out circuits and transistors, swell and sometimes explode insulation. The wide range of damages that can result is one reason that EMP research has had high priority from the Department of Defense for several years.

One of the stellar characteristics of ALECS is a working volume large enough to contain a missile nose cone or object of comparable size. The entire electronics system of the test object can thus be subjected to an EMP of the desired strength and wavelength, including one equal to the EMP from a high-yield nuclear explosion. The working volume measures 16 by 32 by 32 feet and is located, literally, within a giant coaxial cable which effects containment of the electrical field with the use of wire barriers instead of some solid material.

A coaxial cable is a tube of electrically conducting material surrounding an insulated central conductor. In ALECS, the end of a conventional coaxial cable, about the size of a man's thumb, has been split lengthwise into three segments. Emanating from each segment is the giant fan of copper-coated steel wires. Toward the middle of the simulator, the wire tiers from the top and bottom segments of the cable form the "ceiling" and "floor" of the huge box-like field volume. The middle layer of wires continues in the role of a central conductor. At the simulator's midpoint, the bottom layer is replaced by a 50-foot-square copper plate. This plate, reinforced with steel and plywood, can support the weight of a small truck. It serves as the floor of the working volume and the ceiling of an air-conditioned, heavily insulated instrumentation room buried beneath the facility. At the simulator's far end, the three layers of wire are again brought together, in reverse fan arrangement, and connected to a pulse terminator to prevent reflection of the electrical field.



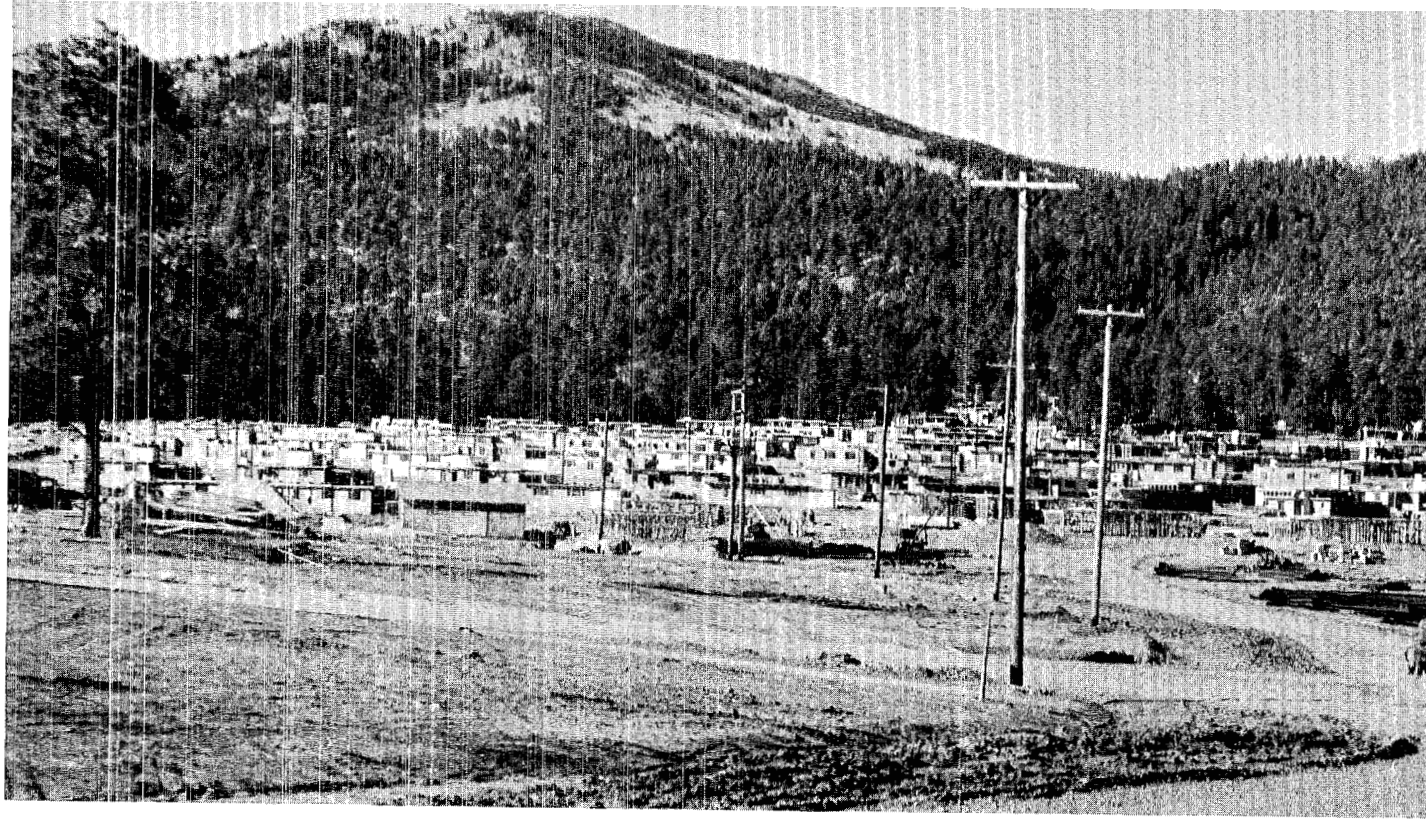
John Malik (right) is credited with "idea" of Kirtland facility. His colleague, Ralph Partridge, seen here assembling supersensitive electromagnetic pulse sensor which can be calibrated with simulator, designed the $200,000 structure.

Energy sources for ALECS will vary according to the size of the pulse needed. Large pulses—in the million-volt range—would require use of a truck-mounted Marx generator, which in laboratory jargon is called a "zap machine." If used, it would be this giant power unit that causes the flash of light and sharp crack or "zap" sound.

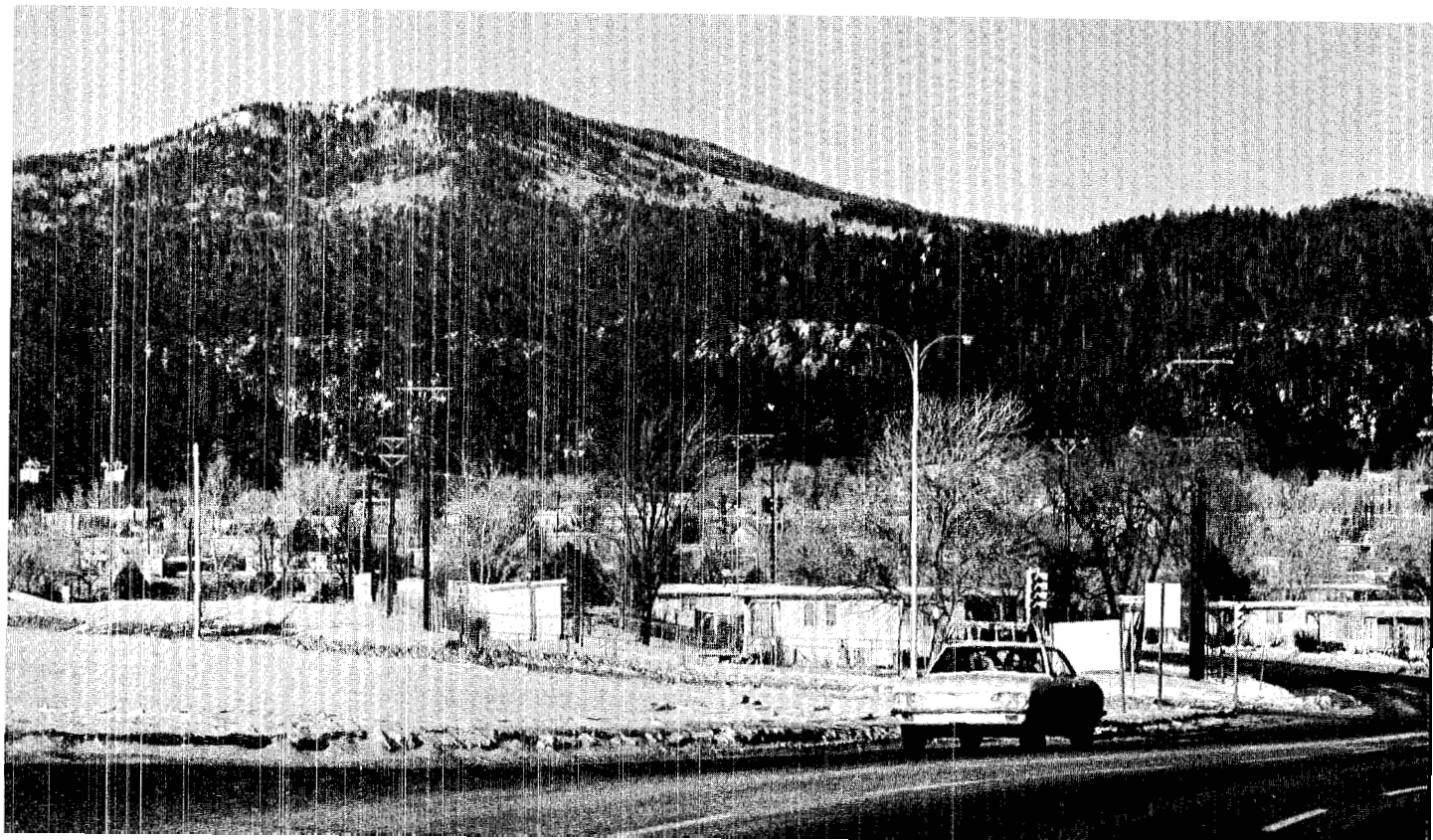
Elaborate safety precautions will be followed in using the facility. It is in a security area, but further safeguards such as warning lights and klaxon signals will alert personnel to firings. Also under consideration is an "electric eye" system that, during actual runs, would automatically shut down the power source if triggered by someone entering the simulator area. Another possibility, more in the interest of preventing interference with electrical and radio transmission in the area than of safety, is the enclosing of the sides of the simulator with a network of wires. The sides are now "open," and no significant problems have yet developed. But electromagnetic pulses, as it is known, tripped circuit breakers on power transmission lines up to 100 miles away in some nuclear detonations in Nevada. Those pulses, it should be noted, were uncontrolled.

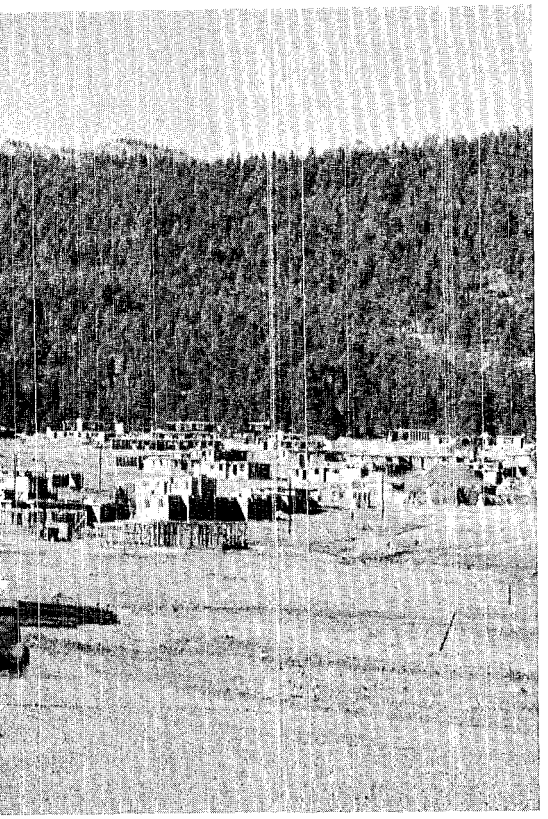
While giving full credit to his colleague, Malik, for conceiving the possibilities of the Kirtland simulator, Partridge points out that the British built what could be called a crude prototype of an EMP facility about 10 years ago. "It wasn't as sophisticated," he says. "They took an old army barracks and put a layer of copper mesh across the floor and ceiling and made their measurements in between."

As the development of ALECS demonstrates, large EMP simulators have pushed far beyond the barracks stage.



WESTERN





Private Ownership Recalls Excitement, Difficulties That Accompanied Hill's First Permanent Housing Subdivision

AREA

First permanent housing in Los Alamos was built in 1947 on what had been a pasture and golf course. These photos were made from the same location on Trinity Drive east of the Diamond Drive intersection, 19 years apart.

By BARBARA STORMS

In March, 1947, the first homes in Los Alamos' spanking new Western Housing Area were being occupied. Exactly 19 years later, the last of these houses are being sold, many of them to the original tenants who braved deep mud and high rents to stake a claim in the community's future. Both events marked significant milestones in Los Alamos history.

For the postwar atomic project, its future hanging in precarious balance, the decision to build 300 permanent homes tipped the scales in favor of stability and offered the first hope for normalcy. In 1966, the sale of those houses, and all the permanent housing built since, signifies the final transition from a government project to a typical community.

To the early residents, both permanent housing and home ownership were a long time coming.

The first Hill arrivals lived in dormitories and assorted Ranch School buildings and later in the comparatively luxurious Sundt apartments. The total of 365 fam-

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Western . . .

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ily dwellings was considered then to be adequate, if Spartan. Personnel Memo No. 1, issued March 1, 1943, warned prospective residents that "in certain respects living conditions will be extremely simple. There will be no individual houses . . . the rooms are small; the entire design and construction simple but adequate."

It got a lot worse before it got better.

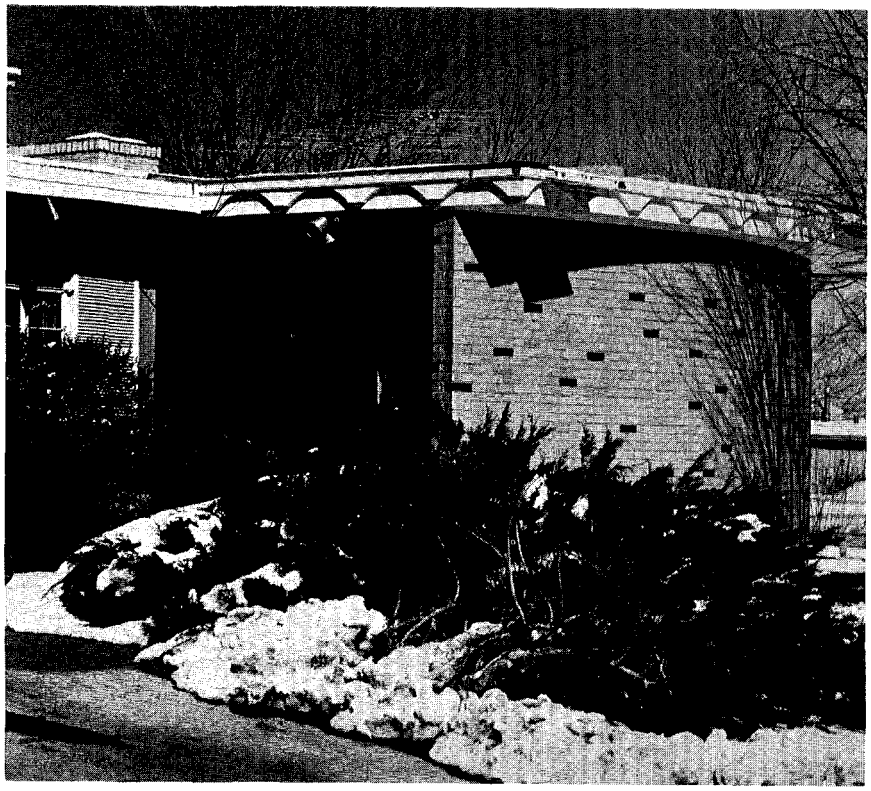
As the Project population mushroomed, familiar examples of the Army's wartime architecture made their jerry-built appearances. Unsightly rows of Pacific huts, National huts, Government trailers, expansible trailers and pre-fab houses scarred the mesa. Some had neither hot water nor indoor plumbing; heat was minimal. Landscaping was nonexistent, mud oozed through plank sidewalks and dust penetrated every crack. Most residents accepted the discomforts as temporary, something to be endured for the war effort. But when the war ended, so did the honeymoon.

The future of the Laboratory, in late 1945, was extremely uncertain, particularly while Congress endlessly deliberated legislation for control of atomic energy. In the face of so much doubt the comforts of civilization grew increasingly appealing and hundreds of project employes returned to the security of prewar jobs in universities and industry. As the new year arrived, the maximum payroll of 1,400 civilians and 1,600 military, on July 31, 1945, had withered to a total of 1,000 employes; the population had dropped from 8,000 to 6,500. Few of those who remained had made firm commitments to stay on. Indecision was severely hampering the Laboratory's planning and programs.

At an October, 1945, policy meeting, the new Laboratory Director, Norris Bradbury, told his division leaders that "All people essential to the project must be housed in a way that will keep them here." Expressing strong doubt that Gen. Leslie Groves, Manhattan Engineer District commander, would "further commit the mesa to permanency" by building houses, Bradbury warned that the Laboratory must prepare to adjust its scale of technical activity to about one-third the present magnitude in three to six months.

"It is curious that the activity of the mesa should be dictated by its housing," the director concluded, "but I see no alternative."

Neither, fortunately, did Groves. In November, the general told a special Senate committee on atomic energy: "We cannot house the people we need at Los Alamos. . . . We are faced with a very desperate situation." He then proposed to encourage high caliber scientists and "the enormous supporting cast" to go to Los Alamos primarily by furnishing them with the proper housing.



Curved brick wall gives new look of permanency to addition at the Nelson Jarmie home, 4138A Trinity Drive. The Jarmies plan to remodel entire duplex.

In order to convince all doubters that the Site would not be abandoned, Groves explained later, the decision (to build houses) had to be made without delay.

And sure enough, on March 15, 1946, the first issue of the *Los Alamos Times* happily announced that "300 to 500 new homes, built in Spanish Mission style and attractively laid out, are planned for construction." The paper also reported the hiring of a community planner who had started work designed "to go far toward making the Los Alamos project a typical American community."

After meeting with Project officials to check the house plans, Groves gave the final go-ahead to build 300 houses on what was then the golf course at the west end of town. Groves promised to begin construction as soon as the W. C. Kruger Company had revised the plans to provide larger bedrooms and contracts could be let.

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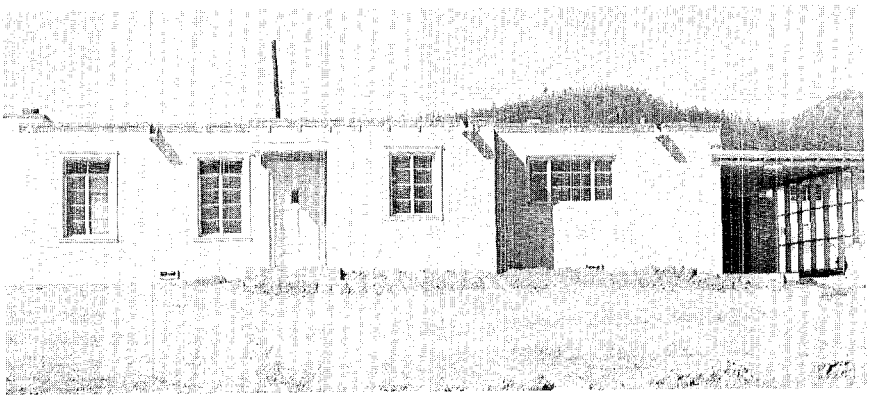
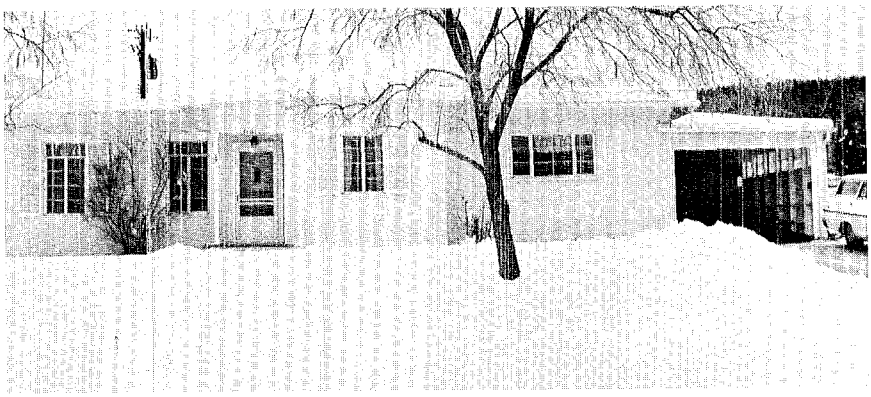
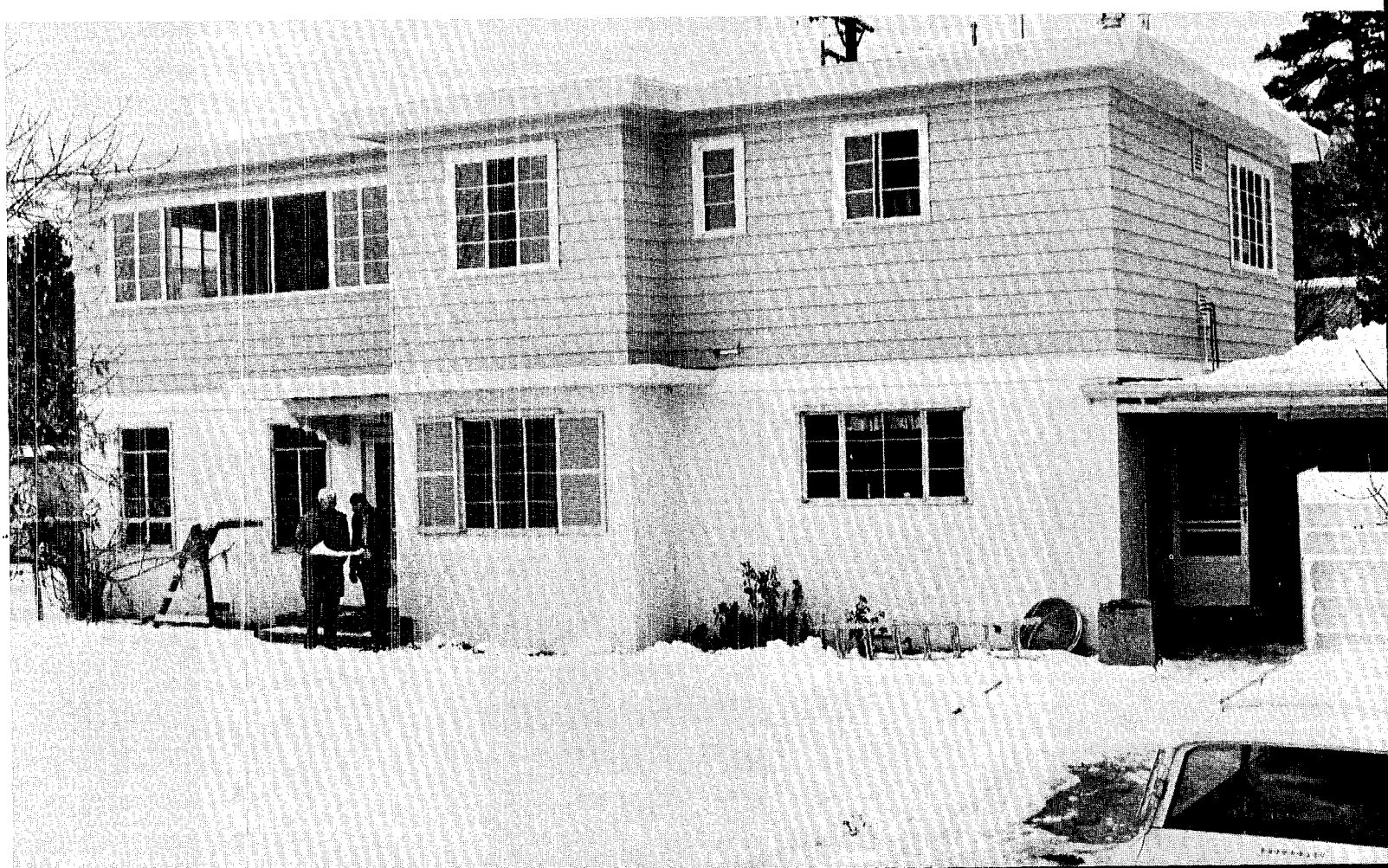
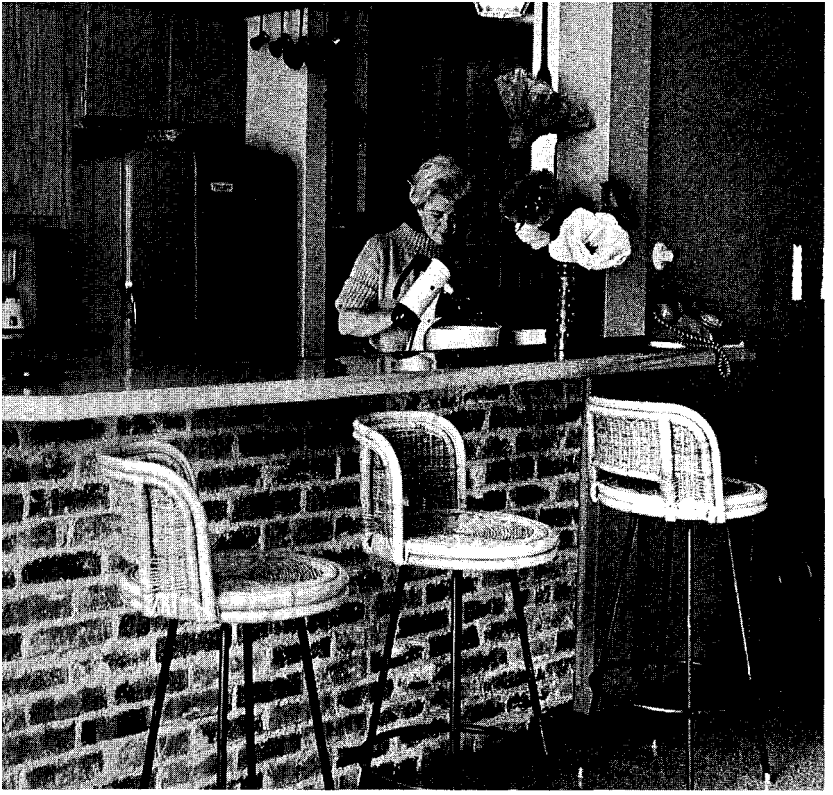




These pictures are of the same type of Western Area house. Original Territorial style architecture was changed when gently pitched roof was added as correction to a drainage problem.

Upstairs addition converted the Bob Watt home at 1447 45th Street to a full two-story house with double the original floor space. Remodeling project is the most extensive to date among hundreds of Western Area homes.





Mrs. Louis Rosen at the breakfast bar in the remodeled kitchen of her home at 1170 41st Street. Many occupants did remodeling even before houses were put on market by Government.

Western . . .

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This news was good enough but the really big story broke on May 29. "Bathtubs set for 300 New Dwellings" headlined the *Times* on Page 1. "This is the best news received by Hill residents since the inception of the Project more than three years ago," exulted the newspaper, pointing out that except for occupants of the 10 Ranch School houses known as "Bathtub Row," residents had made do with showers all this time.

Residents subsequently learned that the single and duplex houses would be of both masonry and frame construction with fireplaces, carports, two or three bedrooms, beamed ceilings and generous closet and storage space. All would have used hardwood flooring, brought to New Mexico from demolished houses in Washington, D. C. The houses would be arranged "to conform as attractively as possible to the terrain," no trees would be cut unless absolutely necessary, and lawns and trees would be included, thus providing what would become the most attractive section of the government-designed community.

The building contract went to the McKee Construction Company on June 29 on a bid of $4,389,-486.36 which included installation of gas, water, electric and sewer lines, sidewalks and roadways as well as construction of the houses, estimated to cost between $11,000 and $12,000 each.

One month later, two sample houses, on the present Spruce Street, near the Community Center, were opened for public inspection. The resulting explosion was reminiscent of Trinity.

Insead of being dazzled by the long-sought comfort and conveniences, the ladies of Los Alamos flipped. A delegation from the Mesa Club, consisting of Mrs. Raemer Schreiber, Dr. Jane Hall and Mrs. John Smith, submitted a list of criticisms: kitchens were too small and ill-arranged, there was no cross-ventilation in the bedrooms and no bookcases. Soon others were decrying the lack of floor insulation and basements, the thin partitions between bedrooms and generally inferior workmanship. Lieut. Col. W. J. Penly, supervising the building project, promised to find out what could be done at no extra cost even though 10 houses were already under construction.

Sounding a little less amenable, Col. E. L. Seeman, associate Laboratory director, snapped:

"We cannot satisfy all possible occupants for the 15 or 25 years the dwellings can be expected to 'live.' We cannot even be expected to provide a custom-built job to satisfy each and every possible occupant now on the Hill." Besides, huffed the colonel, "There is a large number of unheard residents who would be very happy with a new home of the present design or any house at all for that matter."

Still the pressure increased but it took a petition, signed by 30 key Lab men, to bring a delegation from Washington to investigate. Shortly thereafter it was announced that some changes would be made, including the addition of floor insulation and the relocation of the kitchen sink to a window wall.

And so the first permanent houses were built.

Meanwhile, a newly-appointed Housing Policy Board mulled the everlasting problem of how to distribute the houses. For the Laboratory, the point system was established based on length of service and salary. So touchy was the subject that Col. A. W. Betts, the new associate Lab director, labeled his first priority list "Tip Top Secret" —higher than Top Secret.

But all this precaution proved a bit unnecessary in the beginning. As the first houses were completed early in the spring of 1947, there was still a lot of uncertainty about the Laboratory's prospects. There was also a very large difference in rent: $71.00 for a three-bedroom Western compared with $47.50 for a similar-sized Sundt. Many houses

stood vacant for months. Family size rules were relaxed, moving was offered free by Zia, and still some houses went for as few as 250 points.

But not everyone was reluctant. Bernard Pohlmann, SD-2, became one of the first tenants, moving to 803 43d Street on April 21, 1947, while both streets and carports were ankle-deep in mud. Other Lab folk who were quick to snap up singles and are still on hand to buy include Al Georgi, Carson Mark, Louis Rosen, Karl Bergstresser, Neil Davis, Dave Hall, Jim Taub, Jim Sattizahn, Mike Clancy, Elmer Bowen, William Ashley, Sim Shlaer and Robert Van Gemert. Pioneer duplex dwellers include Rod Spence, Armand Kelly, John Orndoff and John Mench. Richard Taschek and Art Sayer moved into the same building within days of each other to complicate the seniority question 19 years later.

The very first Western Area residents, Mr. and Mrs. James W. Hibbets, formerly of Zia, moved to 42nd street in March, 1947, and called their home a "dream house, well worth waiting for."

By the following year, however, the buildings began to look like something less than dream houses. A large-scale safety inspection prompted by an alarming number of property damage claims, found at least 216 of the 300 showed some basic defects: sinking floors and bathtubs, cracked ceilings and walls, leaking roofs and loose or falling plaster. The problems were not slight. Safety inspectors asked several housewives to evacuate bedrooms and others to move beds to another part of the room lest falling plaster do serious damage. One resident discovered a huge chunk of plaster had fallen on a bed, breaking a spring and another actually moved from Western Area to one of the new Denver Steel houses to get out from under his crumbling ceiling.

In due time, after inspections and investigations by "an impartial fact-finding board," repairs were made. The flat-topped block houses got slightly pitched roofs, additional support piers were added under floor joists and sinking bathtubs were jacked up. The wood paneled fireplaces and mantels now featured in every Western Area house were a desperation measure to conceal chronically cracking plaster on chimneys.

By the time the houses were back in shape by late 1948, employment turnover had slowed, hiring increased and the Western Area had become, and was to remain, what many considered to be THE place to live. Complained *Times* columnist Tom Ashlock: "It piques us to find so many persons who, when asked where they live, begin to apologize for NOT living in Western Area."

Meanwhile, development of the area continued. A contract was awarded to McKee for construction of 150 single and duplex houses, minus fireplaces and carports, which became known as Modified Westerns. The first of these was ready for occupancy in the spring of 1948.

In 1949, six metal houses, the Lustrons, were installed as an ex-

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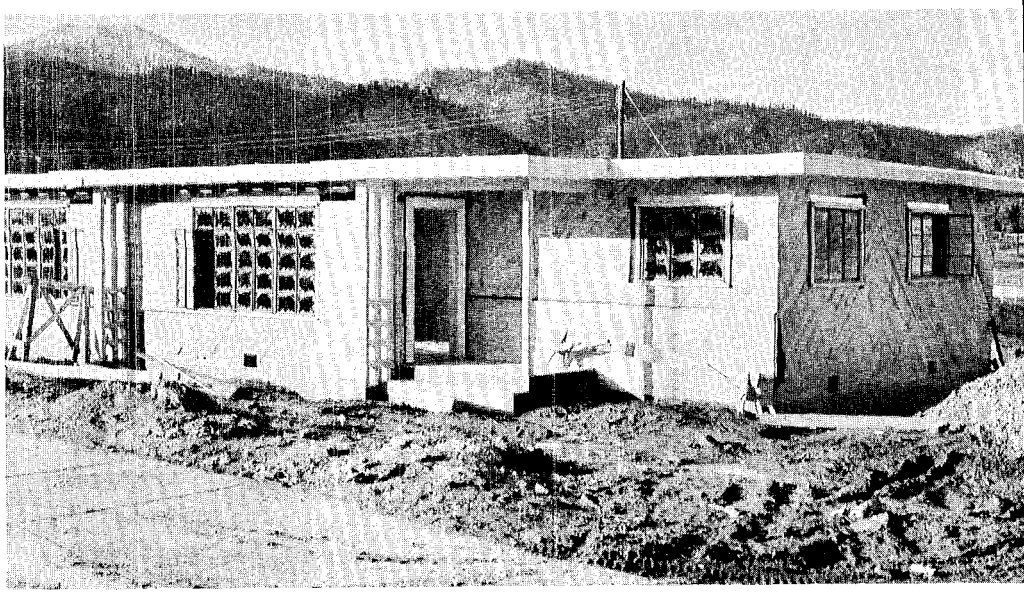

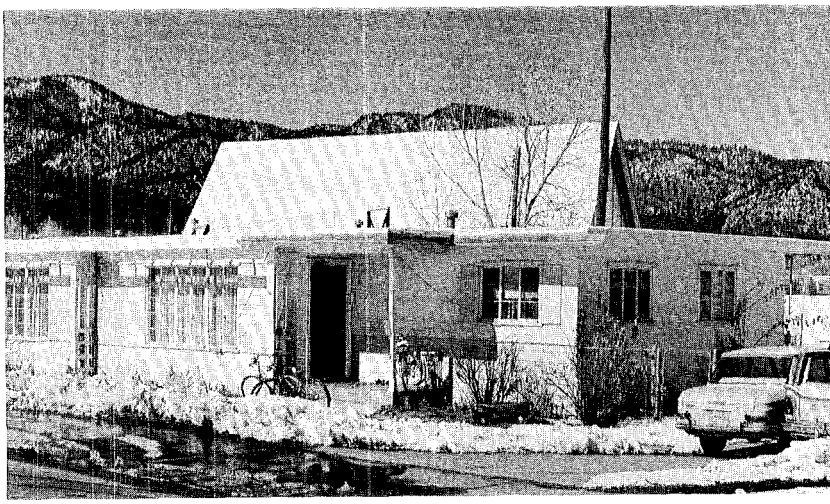

Under construction (above), this duplex at Trinity and Diamond Drives has gained Methodist Church in background (below).

Toward Nuclear Neighborliness

Keepin's Visit to Russia Climaxed Two Years As Emissary For More International Cooperation in Nuclear Research

By EARL ZIMMERMAN

If political diplomacy ever reaches the level of cooperation that marks international scientific exchange, many of the world's ills may vanish. Recognizing this, most governments promote scientific and cultural contacts between nations even as they continue to rely on power diplomacy.

One of the outstanding examples of successful cooperation in science on a global scale is the International Atomic Energy Agency. Headquartered in Vienna, Austria, with a 93-nation membership drawn from both East and West, IAEA is engaged in a variety of nuclear research and applied programs that range from hydrology and desalination work in Africa to plant genetics and agricultural isotope-tracer studies in Southeast Asia.

LASL's G. Robert Keepin, reactor physicist in N Division, has had firsthand participation in this global reciprocity. He returned to Los Alamos last fall after two years in Vienna as head of the Physics Section of the IAEA's Division of Research and Laboratories. His activities have included the organization of a number of international scientific meetings and IAEA technical advisory services in several countries of Europe and Asia.

During his two-year assignment Keepin traveled to almost every country in Western and Eastern Europe and the Middle East. (He holds a United Nations Diplomatic passport—the five-language *"laissez-passer"*—which also makes a rather unique globe-trotter's souvenir, with stamped visas everywhere from Cairo to Hong Kong.) Last July, Keepin and his wife, Madge, visited the Soviet Union. He made the trip not as an American but as an international scientist representing the IAEA. A major purpose of the mission was to encourage and promote —through the framework of the IAEA—further international cooperation and exchange in certain unclassified areas of nuclear and reactor physics data.

Keepin is a well-known specialist in delayed neutron research, a field of great importance in the design of safe and efficient nuclear reactors. At Obninsk, where the USSR Institute of Physics and Energetics is located, Keepin conferred with a number of prominent Soviet reactor physicists, including B. P. Maksiutenko, the leading Soviet researcher in the delayed neutron field. Comparing data that had been reported at the IAEA Symposium on Nuclear Fission at Salzburg in March, 1965, they discussed discrepancies between theory and experiment in delayed and prompt neutron yields as a function of energy of the neutron inducing fission. Because of the importance of such data in reactor physics, and some puzzling

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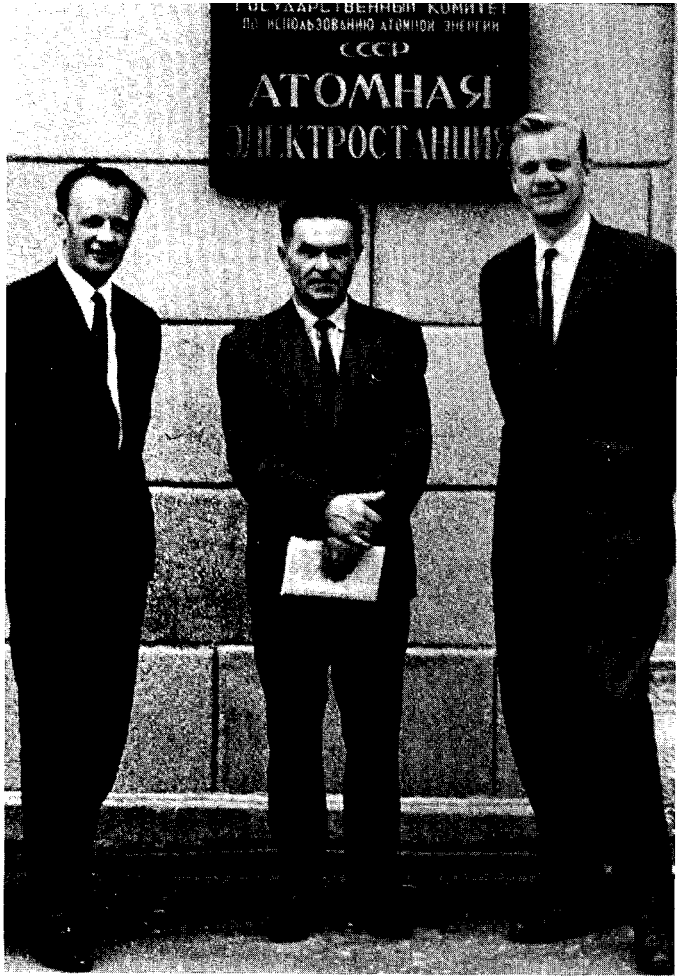
Above: Reactor physics discussion with Soviet physicists after Keepin's lectures at the Institute of Physics and Energetics in Obninsk. Left to right are V. Kuznetsov, head of the Department of Reactor Physics; Keepin; L. N. Usachev, theoretical reactor physicist and member of the Editorial Board of the USSR Nuclear Data Center, USSR State Committee on the Utilization of Atomic Energy; B. P. Maksiutenko, leading Soviet nuclear physicist in delayed neutron research, and Physicist A. I. Abramov, USSR representative to IAEA International Nuclear Data Group.

Right: Madge Keepin alights from the plush Moscow "Red Arrow Express" in Leningrad station. Keepins found Soviet rail service excellent—"OK" as displayed by the sign on the car.



Left above: Madge Keepin was just another shopper in huge GUM Department Store on Red Square—Macys of Moscow.

Above: First Atomic Power Station at Obninsk (a low 30 megawatts thermal but nevertheless the world's first industrial atomic power station when it went on line in 1954). Left to right are A. I. Abramov, A. Sokolov, Deputy Director of the Institute of Physics and Energetics at Obninsk; and Keepin.

Left: Picking wild strawberries and "ramashkas" (daisies), among the birches was the occasion for an afternoon of fun for Mr. and Mrs. Keepin and Mrs. Abramov (at left).

Keepin . . .

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discrepancies which are still unresolved, it was agreed that further measurements of delayed neutron yields at the higher neutron energies (2-14 Mev) should be undertaken independently at different laboratories, including Obninsk and Los Alamos.

Dubna is the location of the USSR Joint Institute of Nuclear Research and the famous IBR prompt burst research reactor. The IBR, coupled with a "Microtron" electron accelerator provides an intense pulsed neutron source suitable for a wide range of basic physics investigations, including structure and dynamics studies of crystals and fluids, neutron spectroscopy and cross section measurements, capture gamma ray and neutron spectra and other data important to reactor design.

At Dubna, as at Obninsk and each of his scientific parleys, Keepin

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Above: "Old Prof" Keepin makes a point during reactor physics lectures at Obninsk. Simultaneous English-to-Russian translation was provided for all of the lectures and discussions.

Right: Inspection of Mobile Nuclear Power Station (7 megawatts electrical) which was developed at Obninsk.

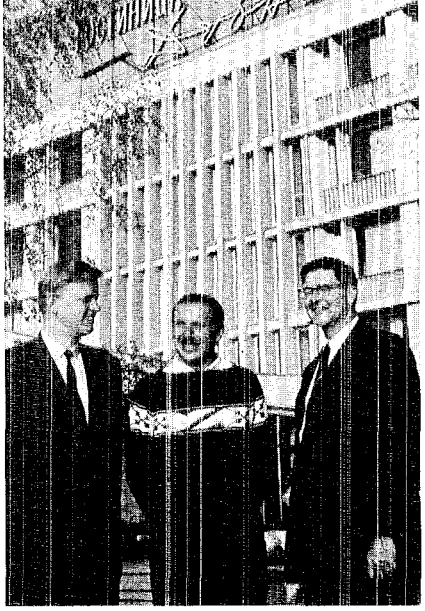
Below: A motorboat outing on the Protva River. Yes, those ARE bikinis on some of those bathers on the bank.

Above: Huge bronze "statue of Bob and Madge Keepin" (their Russian hosts called attention to the likeness) marks entrance to USSR's spectacular "Exposition of Economic and Technical Progress" in the city of Moscow.

Left: Discussions with Soviet reactor scientists at the BFS Fast Critical Facility in the Institute of Physics and Energetics at Obninsk. Fifteen critical assemblies have been studied in this facility, including a mockup of the dual-purpose (electric generation-water desalination) 1,000 Mw(t) fast reactor now under construction at Mangishlak on the northeastern shore of the Caspian Sea in Southern Russia.

Most of the photos on these pages were made by Russian photographers who accompanied Bob Keepin and his wife last July as they visited various Soviet nuclear research facilities and toured the Moscow and Leningrad countryside with their scientist-hosts.

L. N. Usachev with the Keepins outside the famed Spasskaya Tower, which forms a portion of the Kremlin wall along Red Square in Moscow.



Keepin and Bill Havens, Columbia University physics professor who was a Soviet visitor at the time, chat with Russian physicist U. B. Ryabov (center) at the Institute of Nuclear Research in Dubna. Sign reads "Hotel Dubna."

Keepin . . .

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urged expanded Soviet participation with the IAEA Nuclear Data Unit in the IAEA's international program of collation, evaluation and dissemination of basic nuclear data contributed by nuclear research centers around the world. He cited mutual benefits that would accrue from mutual cooperation between the IAEA Nuclear Data Center and the new Information Center for Nuclear Data that has been established by the USSR State Committee for Atomic Energy Utilization (the Soviet AEC). The Editorial Board of this center consists of the distinguished Soviet physicist A. I. Leipunsky, who is Editor-in-Chief, and eight other leading Soviet scientists. During the visit, Keepin was told that his recent book, "Physics of Nuclear Kinetics," which deals extensively with nuclear data basic to reactors, is being translated into Russian and will be published in the Soviet Union this year.

In his IAEA trip report Keepin states that he and his wife were "most hospitably received in the USSR" and he expresses the feeling, shared by his Russian counterparts, that their technical discussions were very useful in helping to promote--through the framework of the IAEA—further international cooperation in defined categories of nuclear and reactor physics research.

With regard to the IAEA generally, and its expanding role in international atomic affairs, Keepin reaffirms the hope expressed last summer by President Johnson: That contacts and exchange in scientific fields might point the way for the statesmen ultimately to establish more effective contact, understanding and cooperation in other "more difficult" areas of international relations.

G. R. Kipin. Interpretation of delayed neutron phenomena
***Г. Р. Кипин.* Интерпретация явлений, связанных с запаздывающими нейтронами**

When the Bob Keepins arrived in Moscow one bright Thursday morning last July, they were met by a cadre of grinning Soviet scientists and Soviet AEC officials with this shocking greeting:

"Pozdravlenye (Congratulations)! You are a member of the Soviet Academy of Sciences! Your official address is 14 Leninsky Prospekt in Moscow!"

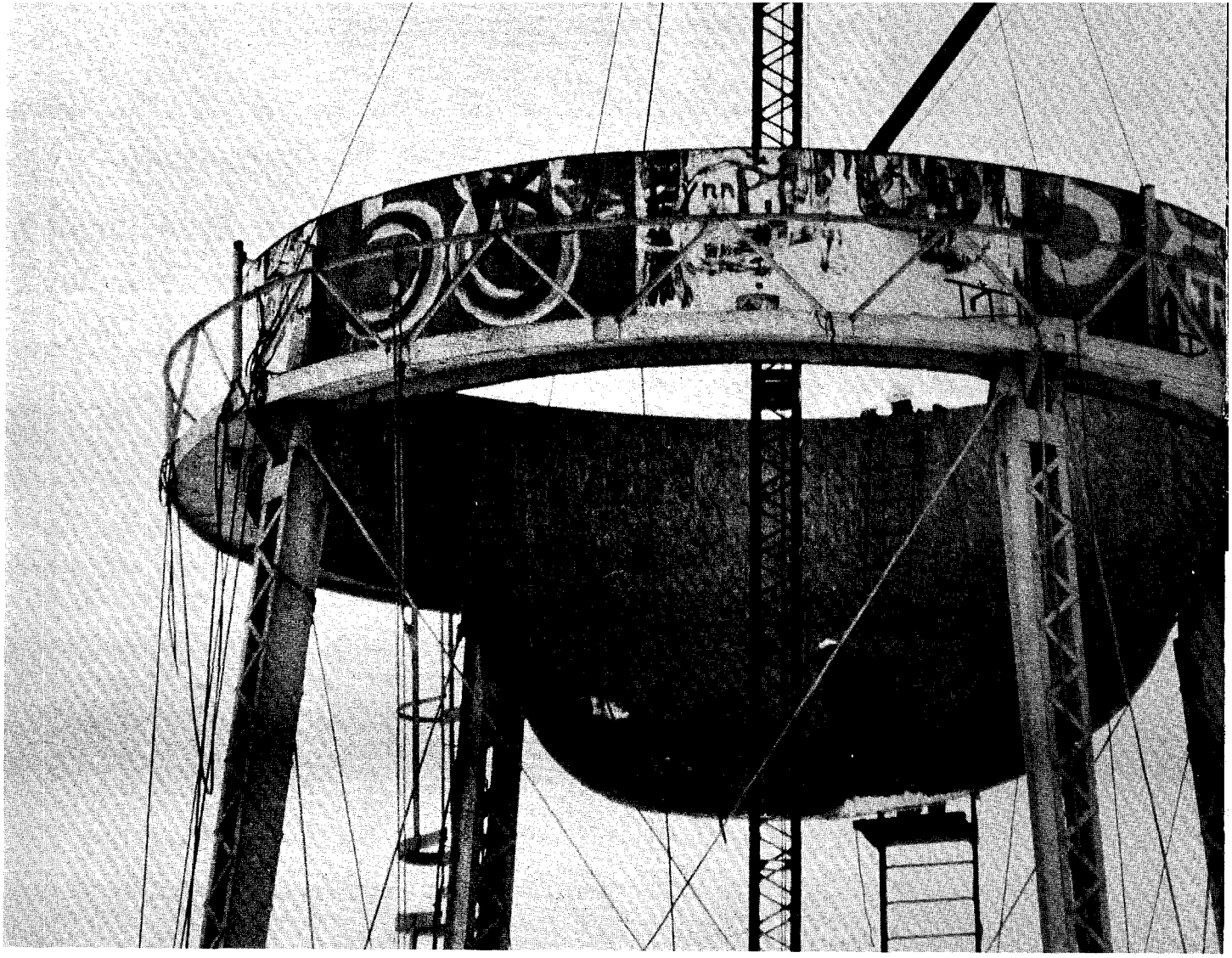
There has been mild dispute in the Keepin household ever since over who was more startled, Keepin or his wife. She confesses to an instant of concern regarding the full extent of her husband's zeal for international cooperation.

As it turned out, the greeting was a gag based on a translational fluke traceable to a paper Keepin wrote in 1958 at the request of the Soviet Journal of Atomic Energy, *"Atomnaya Energiya."*

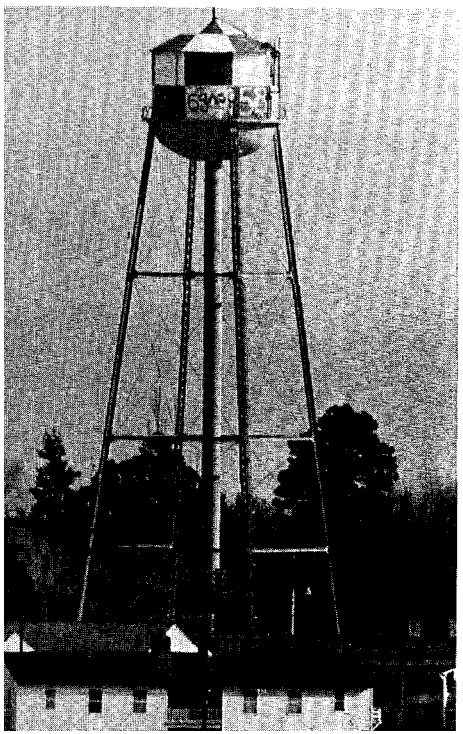
The journal is published in Russian but carries an insert sheet listing the journal contents in English and Chinese (the latter of the two translations has recently been dropped). It happens that in Russian the sounds corresponding to the English letters "ee" and "i" are identical, so the original translator thus wrote the name Keepin in Russian using the Russian letter "и" for both vowel sounds. When it was translated back into English for the journal-index insert, it came out "Kipin."

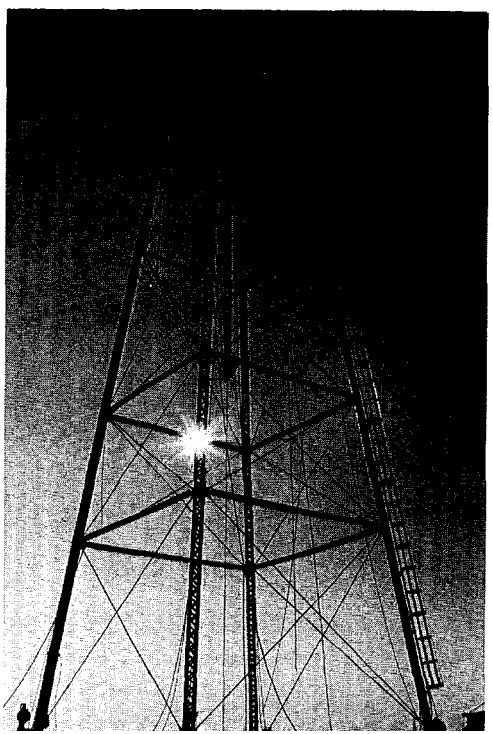
Over in England a compiler for the respected international directory of scientists, *"Who's Who in Atoms,"* spotted the name Kipin in the English index of *"Atomanaya Energiya."* Since the index lists only authors' names and article titles, the compiler apparently assumed author G. R. Kipin to be a Russian, and no doubt a member of the Soviet Academy of Science, which offices on Leninsky Prospekt in Moscow. (Actually, the assumption was not completely illogical since "Kipin" happens to be a very Russian-sounding name; there is, in fact, a village so named in northeastern Siberia.) The listing must have surprised the Russians, too, for there is no other Kipin in the nuclear energy business in the USSR.

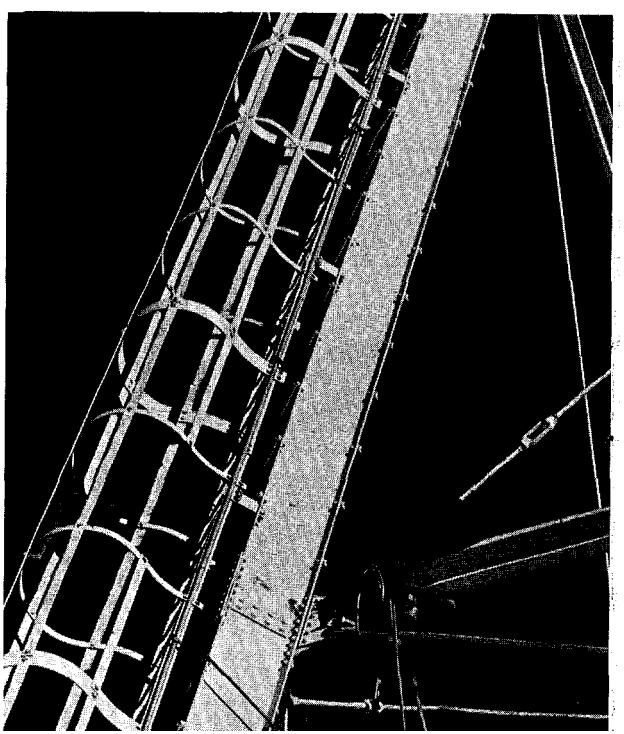
A few pages earlier in *"Who's Who in Atoms"* was the correct listing for G. Robert Keepin, Los Alamos, USA. The double listing appeared in 1960 and 1962 editions. It has been removed from the latest (1965) edition, thus ending the ersatz membership of a Los Alamos staff member in the Soviet Academy of Sciences!

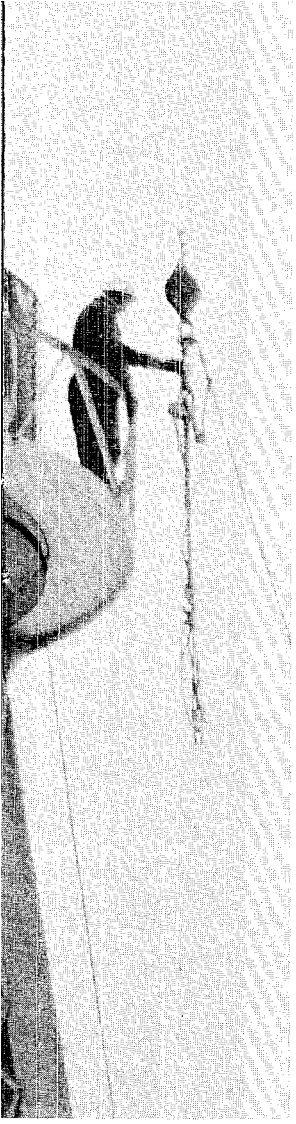


California workmen, employes of same company that built water tank 25 years ago, toil under overcast winter sky to dismantle Los Alamos landmark. Tower and 100,000-gallon storage tank are being moved to TA-21 where they will be reassembled.









AFTER 17 YEARS OF SENTRY DUTY, TOWER COMES DOWN (Temporarily)

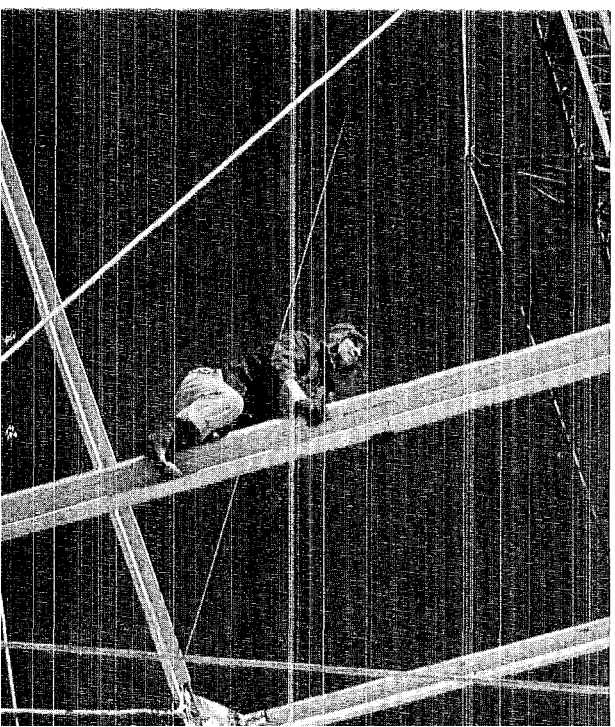
For 17 years, it had served as a Mt. Everest to intrepid schoolboys with a yen to paint their initials in high places. But last month, the water tower at Central and 24th Street came down, piece by piece, dismantled by a crew of steeplejacks from the same company that built the 30-ton storage tank in 1941.

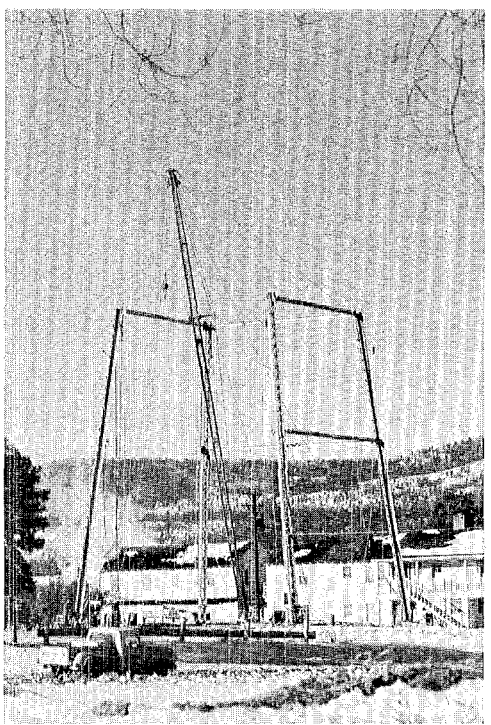
The structure was one of the last remaining vestiges of the Laboratory's original technical area and was a notable Los Alamos landmark.

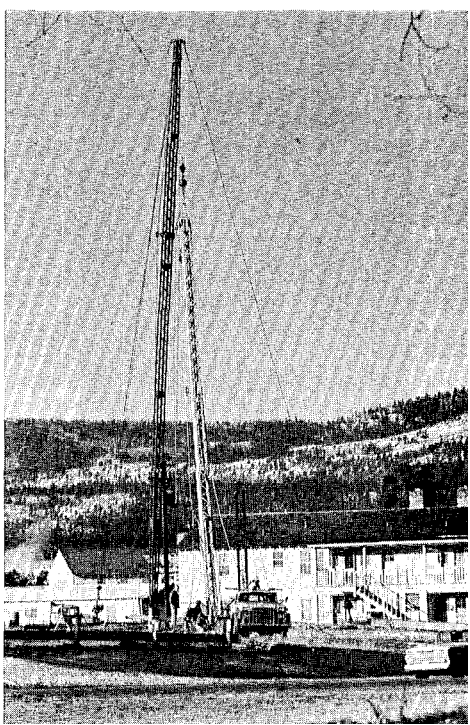
Erected here in late 1948, the tower and its 100,000-gallon-capacity tank serviced TA-1's fire protection systems until last year. Its usefulness, however, is not yet ended. At a new location, near the entrance to LASL's plutonium refining and research facility, TA-21, the tower will fulfill a health and safety role—namely, guarding against the possibility of contaminated water backing from the TA-21 water system into townsite mains.

Favored by moderate weather, a crew of seven from the Pittsburgh-Des Moines Steel Company dismantled the 22-ton tower and its tank in three weeks. They hope to have them re-erected at TA-21 by the end of the month. For Foreman Dave Garcia, lean, doughty 40-year-old catwalk veteran, this was job No. 150 or so. It was also one of his tallest in two respects: The 158-foot tower-tank height and the 7,334.71-foot altitude at the tip.

Foreman Garcia — Job No. 150







Charter Defeat Raises Questions . . .

What Happens

The "no" lever had scarcely cooled on Los Alamos voting machines last month before a petition went into circulation to request appointment of a new Charter Commission to draft a second proposal for an incorporated county government. The petition asks that the new charter group be convened by the County Commission to propose an alternative to the charter so soundly defeated in the February 8 referendum.

"Everyone has learned a great deal now," said Bob Watt, one of the originators of the petition. "We would like to see that what we have learned is preserved by starting on a new charter now."

The County Commission, on the other hand, announced immediately after the voting that it did not plan to appoint a new Charter Commission "right away." Commission Chairman John Rogers said he would prefer to "wait and see if there is a great deal of public interest in a new charter."

If the required 700 signatures are obtained on the petition, however, the County Commission would be obligated to appoint a Charter Commission in accordance with Article X Section 5 of the New Mexico Constitution.

Section 5, the erstwhile Amendment 4 which permitted incorporation of Los Alamos county, provides that a Charter Commission be appointed either on the initiative of the County Commission, as was done originally, or by petition bearing the signatures of 10 per cent of the county's registered voters.

(Section 5, incidentally, takes precedence over provisions in the Municipal Code (14-14-2) which require signatures of 30 percent of the voters on such a petition and prohibit presentation of a second proposal for two years after defeat of the first.)

Both proponents and opponents of the original charter agree that a lot of important groundwork should be done before another charter is drafted. A poll of Los Alamos voters has been recommended to determine whether or not the people want a charter at all and, if they do, what they want in it. Points of contention in the first charter were clearly defined by election day but what specifically sent the proposal to defeat is anybody's guess. The possibility of offering the voters a choice of charters or a choice of various features within the charter in an effort to overcome this problem has been ruled out as illegal.

A number of local organizations including both the Democratic and Republican Central Committees are giving some consideration to conducting a voter poll.

Clarification of the Municipal Code and its application to Los Alamos in its unique position as an H Class county also has been strongly recommended. Legal experts say the code is applicable only "to a certain extent" but just where it applies is not clear. Still others say the code is entirely applicable. Clarification, it has been suggested, would give the people a better idea of what kind of government they now have before they weigh the advantages of changing it.

Meanwhile, Los Alamos residents, fresh off the battle front, already appear to be dividing into two entirely new factions: the "strike while the iron is hot" group favoring the drafting of a new charter while the problem is still fresh in peoples' minds, and the "cooling off period" proponents who feel the intensely emotional atmosphere created in the first go-round should have time to simmer down before discussion is resumed.

Either way, Hill folk can rest easy in the knowledge that with or without a charter, disaster is not imminent.

In lieu of incorporation, the County will continue to function under its present system governed, at least in part, by the State Municipal Code of 1965. County Commission Chairman Rogers expects that "the County can probably continue to do most of the things we are now doing" under the code. Some changes in local government operations covered by the Municipal Code could require approval by the State Legislature.

Official AEC turned nary a hair at the news of the charter defeat. Despite some press reports, results of the referendum had no effect whatever on AEC subsidy. In accordance with Chapter 9 Section 91

Now?

of the Atomic Energy Community Act, the AEC will pony up cash for community operations for ten years under any system short of anarchy.

Specifically, Section 91 states:

"From the date of transfer of any municipal installations to a governmental or other entity at or for the community, the Commission shall for a period of ten years, make annual assistance payments of just and reasonable sums to the State, county or local entity having jurisdiction to collect property taxes or to the entity receiving the installation transferred hereunder."

Just before the election, Area Manager Charles C. Campbell further assured any doubters that "Regardless of the results of the election . . . the Commission will provide reasonable financial assistance to the County government in accordance with the provisions of Chapters 8 and 9 of the Community Act."

What the AEC does require, however, is a firm plan for operation of the utilities before the system can be transferred to the County. The charter spelled out such a plan but the same thing can be accomplished by the existing government. The County Commission is presently studying possible methods for utility operations within the framework of the Municipal Code.

And in case anyone should ask, White Rock may NOT go off on its own and incorporate. Tain't legal.

NEW HIRES

Richard F. Smale, Pottstown, Pa., H-8

Robert M. Hibbetts, Albuquerque, N.M., GMX-7

Donald Lee Williams, Stillwater, Oklahoma, T-1

James Parish Shipley, Jr., Las Cruces, N.M., P-1

Margaret Ann Dodds, Los Alamos, PER-1 (Casual)

Ralland L. R. Christiansen, Houston, Texas, ENG-3

Howard Francis Smith, Newark, Calif., WSD

Maria V. McTeigue, Los Alamos, T-1

Laurence Martin Holland, Los Alamos, H-4

Robert Lloyd Cady, Long Beach, Calif., MP-2

David Herbert Brown, Idaho Falls, Idaho, K-3

John Daly Cleary, Large, Pa., K-3

Florence N. Morgan, Los Alamos, CMB-11 (Part Time—Rehire)

Bonnie L. Wilson, Los Alamos, CMB-6 (Part Time)

Billie E. Clinton, Los Alamos, PUB (Casual—Rehire)

Martin P. Kellogg, Urbana, Ill., P-9 (Rehire)

Tony J. Maestas, Alcalde, N.M. SP-4

John Herbert Wood, Cambridge, Mass., CMF-5

Mary Evelyn Hibbetts, Los Alamos, D-2 (Rehire)

Jack L. Walters, Los Alamos, D-2 (Casual)

Paul George Kurtz, Evendale, Ohio, ENG-2

John Edward Magnuson, Milwaukee, Wis., CMB-6

David N. Grauerholz, Kirwin, Kansas, SP-3 (Short Term)

Victor H. Kollman, Los Alamos, MP-2 (Casual)

Nancy Lee Cox, Los Alamos, W-1

John Alden Farrell, Durham, N.C., W-8

Robert Ray Butcher, Central Point, Oregon, MP-2

Kendahl J. Johnson, Denver, Colorado, SP-6

James Ernest Walter, Berkeley, Calif., J-7

Steven Paul Koczan, Livermore, Calif., MP-3

Rodney Spencer Biddle, Klamath Falls, Oregon, GMX-3

Edward G. Bowlby, Burlingame, Calif., J-6

John Hubert Patterson, Albuquerque, N.M., SD-1

Joseph F. Hill, Los Alamos, J-6

Jacobo Polinar Lucero, Santa Fe, N.M., GMX-1

Jimmie Griff Parsons, Idaho Falls, Idaho, ENG-1

Robert E. Stoltenberg, Boulder, Colorado, CMB-7

Bruce Clausen Goplen, Middletown, Conn., K-3

Billie Faye Miller, Los Alamos, MP-DO (Casual)

Virgil Edward Paullin, Gardena, Calif., ENG-1

Dimas Castulo Vigil, Cundiyo, N.M., SP-4

Gloria June Bailey, Los Alamos, SP-12 (Casual)

Eugene Marcos Sandoval, Espanola, N.M., GMX-11

Ray Edward Williams, Albuquerque, N.M. J-7

Harold Wayne Faire, Jr., Idaho Falls, Idaho, ENG-1

David Carter Murphy, Albuquerque, N.M., SD-1

Ann Louise Ragan, Los Alamos, P-DOR (Rehire-Part Time)

The Technical Side

Seminar at University of Illinois, Urbana, Jan. 28:

"Shock Tube Studies of Vibrational Relaxation" by John H. Kiefer, GMX-7.

Seminar at University of Utah, Dept. of Nuclear Engineering, Jan. 28:

"Low Pressure Z-Pinches in Krypton" by John A. Palsedge, P-16.

Talk before Physics Class from Kansas Wesleyan University, Jan. 29:

"Designing Lenses with a Computer" by Charles A. Lehman, T-5.

Talk before Department of Nuclear Physics, Institute of Technology, Lund, Sweden, Jan. 14:

"Recent Studies of Fissioning Isomers and of Angular Momentum Effects in Fission" by Robert B. Leachman, P-12.

Fourth International Winter Meeting on Nuclear Reactions, Villars, Switzerland, Jan. 21:

"Results of Fluctuation Experiments in Los Alamos" by Robert B. Leachman, P-12.

Talk at Institut fur Strahlen-und-Kernphysic der Universitat Bonn, Bonn, Germany, Jan. 24:

"Nuclear States in the Continuum" by Robert B. Leachman, P-12.

Talk at Atomic Energy Research Establishment, Harwell, England, Jan. 25:

"Nuclear States in the Continuum" by Robert B. Leachman, P-12.

Twelfth National Symposium on Reliability and Quality Control, San Francisco, California, Jan. 25:

"Device Model Requirements for Circuit Analysis Computer Programs" by Allan F. Malmberg, T-7.

Astronomy and Science Club Meeting, Albuquerque High School, Albuquerque, N.M., Jan. 25:

"Mars Bound with Newton's Laws" by Thomas F. Stratton, N-5.

Nuclear Engineering Seminar, University of New Mexico, Albuquerque, Feb. 9:

"LASL Coupled Reactor Experience" by Curtis G. Chezem, N-2.

American Physical Society Meeting, New York City, Jan. 26-29:

"Polarization Effects in Nucleon-Nucleus Interactions" by W. R. Gibbs, T-9. (INVITED PAPER)

"Design of High-Energy High-Efficiency Linear Accelerators" by Edward A. Knapp, MP-3 (INVITED PAPER)

"Motion of an Artificially Produced Plasma in the Earth's Magnetic Field" by Herman Hoerlin, J-10. (INVITED PAPER)

Institute of Electrical and Electronic Systems, Los Angeles, California, Feb. 2-4:

"Numerical Studies of Non-Linear Fluid Flows" by Bart J. Daly, T-3.

International Symposium on Neutron Noise, Wave and Pulse Propagation, University of Florida, Gainesville, Fla., Feb. 14-16:

"*Measurement of Pressure-to-*Pressure Transfer Functions Through Phoebus-1A Nuclear Reactor" by James A. Johnson, N-4.

Seminar for the Chemistry Dept., Texas Technological College, Lubbock, Texas, Feb. 14:

"Organic Chemistry of Biological Information Transfer" by F. N. Hayes, H-4.

Presentation at PHS Training Course on "Respirable Mass Sampling of Dust," Cincinnati, Ohio, Feb. 14-18:

"History of Size Selective Sampling for Particulates" by Edwin C. Hyatt, H-5.

Seminar at Sandia Corp., Albuquerque, N.M., Feb. 15:

"Research in Group CMF-5—LASL" by S. E. Bronisz, CMF-5.

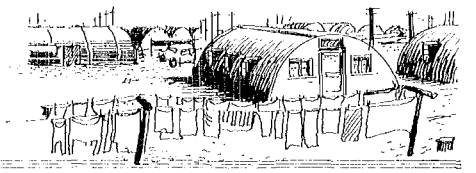
Meeting of the Radiation Research Society, Coronado, Calif., Feb. 15:

"The Cell Separator—Design and Usage" by M. J. Fulwyler, H-4.

American Crystallographic Association Meeting, Austin, Texas, Feb. 28 - March 2:

"Refinement of the Alum Structures" by D. T. Cromer, CMF-5, Mortimer I. Kay, Puerto Rico Nuclear Center, and Allen C. Larson, CMF-5.

20 years ago in los alamos



Culled from March 1946 files of the "LOS ALAMOS TIMES" by Robert Porton.

Los Alamos Gets First Newspaper

Los Alamos' first newspaper made its appearance on the Project. It is a non-profit, non-commercial weekly enterprise published by the Laboratory's Personnel Services for the community.

First Laboratory Men Off to Bikini

The trek to Bikini was underway this week. A small group of Los Alamos scientists and technicians departed by plane for the cluster of atolls in the central Pacific where the test of atomic bombs against naval vessels will be held. In Pacific coast ports, Navy vessels are being outfitted for the part they will play in the technical aspects of the drops. Aiding in the outfitting are representatives of the Lab. Among the personnel to be involved in the test are: Raemer E. Schreiber, Berlyn Brixner, Harlow Russ, Norris Nereson, and Jerome B. Weisner.

300 New Homes for Project

Several hundred new homes, built in Spanish Mission style and attractively laid out, are planned for construction on the Site, according to Lt. Col. W. A. Stevens, Post Commander. The dwellings are expected to conform to some of the best typical Southwestern architecture. Plans for the houses have been drawn by W. C. Kruger, Architect and Engineers. Colonel Stevens emphasized that the new homes will be laid out in such a way that they will conform as attractively as possible to the terrain of the "Hill."

"We want no ugly suburban-project regularity in the arrangement of the houses at Los Alamos," he declared.

He said extensive study is now being made of the various commercial facilities necessary to the life of the project, and forms for the invitation to bid on the concessions will be granted on a competitive basis.

19 Candidates in Race for Town Council Posts

Nineteen nominees are vying for the eight Town Council posts in the semi-annual election to take place next week. It will be the sixth election in the Project history, and, judging from the public interest so far, one of the most hotly contested. Candidates include James E. Greenwood, R. F. Taschek, Bengt Carlson, Darol K. Froman, Armand W. Kelly, D. P. MacMillan, and Margaret B. Thompson.

Dr. Bradbury Receives Award

Formal government acknowledgement of the part he played in the development of the atomic bomb has been accorded Dr. Norris E. Bradbury, Director of the Los Alamos Laboratory. The Legion of Merit from the President was presented to Dr. Bradbury by James Forrestal, Secretary of the Navy. The award cites at length Dr. Bradbury's scientific and administrative contribution to the Laboratory during the war period.

WHAT'S DOING

LITTLE THEATER: "Auntie Mame," comedy by Patrick Dennis. Civic Auditorium, March 25 and 26 and April 1 and 2, 8:30 p.m. Directed by John Mench and featuring Brandy Steger as Auntie Mame and Micki Dick as Vera. Tickets $2 single admission, $6 season.

OUTDOOR ASSOCIATION: No charge, open to the public. Contact leader for information regarding specific hikes.

- Saturday, March 5, Lake Peak, snowshoes and skis with 2,000 feet altitude gain. Rope may be used.
- Saturday, March 12, down Water Canyon to the Rio and return up Pajarito Canyon.
- Sunday, March 20, Hondo Canyon. A long hike, probably 15 miles round trip.
- Sunday, April 3, Buckman Mesa. A short, good-for-the-family hike.

MUSEUM OF NEW MEXICO: Buildings in Santa Fe open from 9 a.m. to 5 p.m. Tuesday through Saturday, 2 p.m. to 5 p.m. Sundays and holidays. Closed Mondays.

- Museum of International Folk Art—"Afro-Arabic" and "The Shape of Music," all month; "Salt Glaze Technique," opens March 6. Folk Art Auditorium, 7:30 p.m. March 23, "Olympia, Part I," monumental documentary film by Leni Riefenstahl of 1936 Olympic games in Berlin. 100 minutes. Admission $1. Part II will be shown in April.
- Fine Arts Building—"New Mexico Watercolor Scenes" and "The Artists' Record—The Western Scene, "all month; "Young Indian Painters," closes March 27.
- St. Francis Auditorium—Lecture "Archeology in Israel" by Professor Moshe Dothan of Jerusalem, 8 p.m. March 4, admission free; Family Youth Concert, 3 p.m. March 20, admission free.

FILM SOCIETY: Civic Auditorium. Admission by single ticket, 90 cents, or season ticket, $4. Tickets available at door.

- Wednesday, March 16, 7 and 9:30 p.m. —"Billy Budd," 1962 English drama based on Herman Melville's last novel, an affirmation of faith that evil does not triumph over good. Directed by Peter Ustinov. 123 minutes.

PUBLIC SWIMMING: Los Alamos High School Pool, Adults 35 cents, children 15 cents. Saturday and Sunday 1 to 6 p.m. *Monday, Tuesday and Wednesday,* 7:30 to 9:30 p.m.

FOLK DANCING: International Folk Dancers Club, Recreation Hall, Tuesdays 7:45 to 11 p.m. First half hour is devoted to instruction. Everyone welcome, 40 cents per person per night.

Western . . .

continued from page 23

periment but the company that had prefabricated them went out of business before more could be obtained. That same year the five-bedroom Executive House was built and three Original three-bedroom houses were expanded to four bedrooms. The addition of six four-bedroom houses in 1950 and six Group 16 units in 1955 completed development of the area except for bedrooms and baths added to many homes as part of the government's $2 million modification program in 1959 and 1960. The largest house in the area now is the

Final transition from public to private ownership will come when the few vacant lots are sold. This sign is for property located at 4220 Trinity Drive.

sprawling seven-bedroom home of the Conrad Longmires at 4756 Trinity.

As community transfer becomes more and more of a sure thing, the sound of saw and hammer rings through Western Area streets as prospective owners begin remodeling the houses soon to be their very own.

The most ambitious remodeling job to date is underway at the Bob Watts' at 1447 48th Street. When completed sometime this month, the original three-bedroom house will have a second story with a library, chemical laboratory, large bathroom and two bedrooms. The huge master bedroom commands a sweeping view of both the Sangre de Cristo and Jemez Mountains and opens to a sun deck extending over a ground-floor bedroom wing added earlier. Downstairs, two bedrooms have been joined to provide a spacious family room.

At the Nelson Jarmies' at 4138 A Trinity, expansion of the master bedroom by addition of a handsome curved brick wall is the first phase of a master remodeling plan that eventually will touch the entire duplex building.

While the building business booms, rental activity on Western Area units at the three Los Alamos housing offices has nearly ground to a halt. Duplex units still become available but short-term renters for them are hard to find. The last three Original Western singles in the Laboratory's allotment appeared on the housing list in August and September and went for well over the 1,300 points at which they were advertised; a Lustron was rented in October, and a Modified single, rented in December, essentially closed the books on the long, auspicious public life of the Western Area.

There's Nothing to It

Sign on a bulletin board in the Science Building at San Jose State College:

"Wanted, student to work on nuclear fissionable isotope molecular reactive counters and three-phase cyclotronic uranium photosynthesizers. No experience necessary."—from UPI.

Future of Lodge Is Under Study

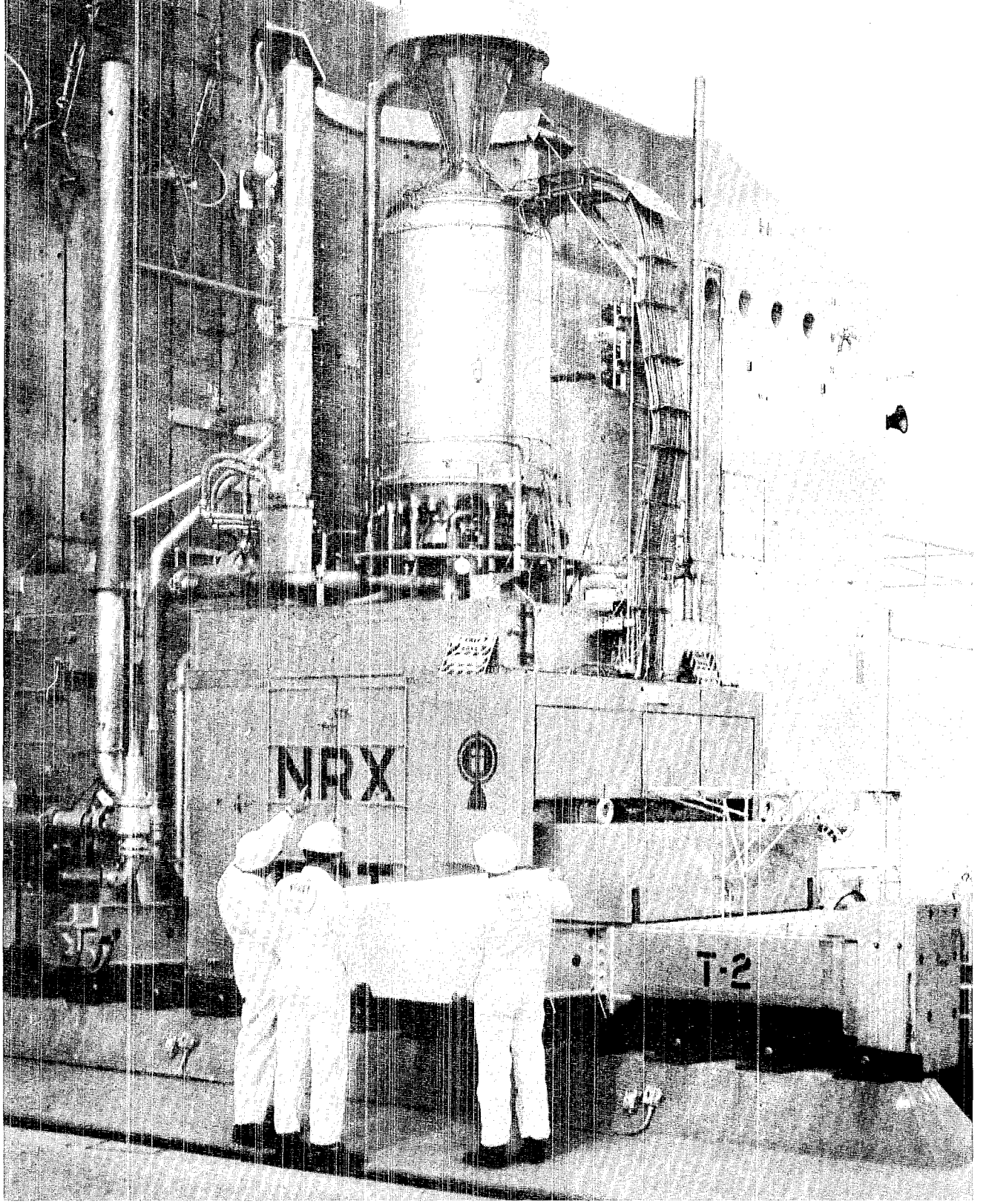
A committee to study possible future uses for the Lodge has been named by AEC Area Manager Charles C. Campbell. Campbell has reversed earlier plans to remove the big log building and has given assurance it will be retained as a part of the community's "historical zone."

The citizen's committee is to recommend useful purposes to which the building can be put. Chairman of the committee is Mrs. Harold Agnew. Other officers: Joseph F. Hill and Rudolph Velasco, co-chairmen; Mrs. Robert Harper, recording secretary, and Mrs. Roger Corbett, publicity. Other members are James Teare, the Rev. Raymond Tiemeyer, Ronald Short, Mrs. R. D. Baker, Mrs. James Lilienthal, Leslie G. Hawkins and Jim Ritter.

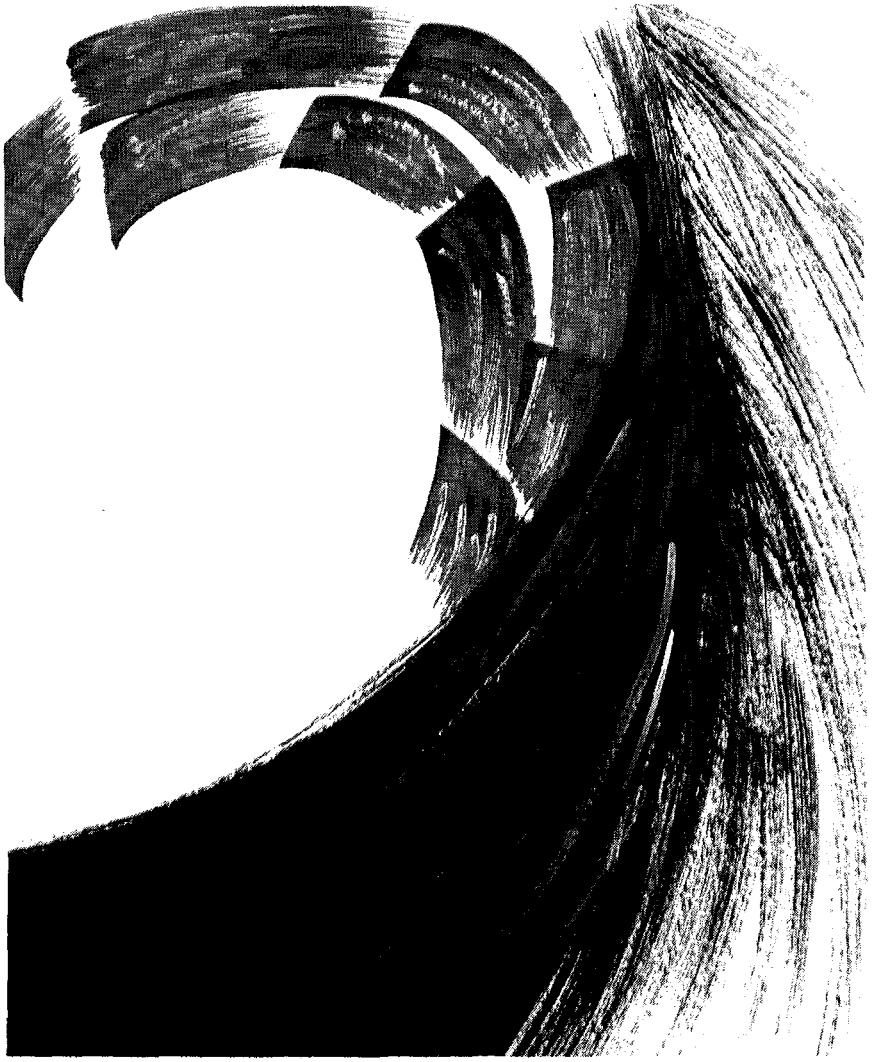
Happy Birthday to Pu

Plutonium, the man-made element that is the major fissionable fuel of atomic energy, was 25 years old February 21. The occasion was observed with a ceremony in the small chemistry laboratory room on the University of California campus at Berkeley where Element No. 94 was discovered on a rainy night in 1941.

Secretary of the Interior Stewart Udall designated the lab as a National Historic Landmark. Also present for the ceremony were three of the four co-discoverers of plutonium—AEC Chairman Glenn T. Seaborg, Dr. Edwin M. McMillan, Director of the Lawrence Radiation Laboratory, and Dr. Arthur C. Wahl, professor of chemistry at Washington University, St. Louis, Mo. The fourth co-discoverer, Dr. Joseph W. Kennedy, died in 1957.



The plot's the same, but the cast is different. Reminiscent of years of Kiwi reactor testing, this photo was taken last month shortly before a successful series of tests of a NERVA reactor—the follow-on to Kiwi. NERVA is the transition phase from reactor-only to a flight-type system in the nuclear rocket program. The February tests at the Nuclear Rocket Development Station in Nevada were conducted by crews from Aerojet-General and Westinghouse, the major contractors for NERVA. LASL scientists, now busy with larger and more powerful Phoebus reactors, were on hand as highly interested observers for the experiment sequence. It will be a Phoebus-type device that ultimately will fly.



Painted by **Gloria Velasco,** a junior at Los Alamos High School. Sixth in the series.

The Road to Discovery

Now in the design stage, the $55 million Los Alamos Meson Physics Facility (LAMPF) will serve as the world's first linear proton accelerator in the 800 MeV energy range. It will be capable of producing an average beam current of 1 milliampere, manifestly higher than that attained by any other machine of comparable output energy.

This 2,600-foot-long "meson factory" will open important avenues of basic and applied research. Such a meson producer will have many applications for studies in medium energy physics, particle physics, nuclear structure, biology, solid-state physics, radiation chemistry, and for neutrino experiments.

If you would like to join LASL scientists and engineers in this exciting venture, send your resume to Director of Personnel, Division 66-35, P.O. Box 1663, Los Alamos, New Mexico.

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